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28 August 1979

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ECONOMIC AND INDUSTRIAL AFFAIRS

No. 1929

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SERIOUS WEAKNESSES IN KREMIKOVTSI METALLURGICAL PLANT

Sofia RABOTNICHESKO DELO in Bulgarian 24 Jul 79 pp 1, 2

[Article by Zhivko Vladimirov: "A Lag that Arouses Anxiety"]

[Text] The first 6 months of the next-to-the-last year of the Seventh Five-Year Plan have passed. Everywhere in production enterprises, labor collectives are surveying the ground that has been covered and are reporting the results that have been achieved. The metallurgists of the Kremikovtsi Economic Metallurgical Combine are reporting their achievements too.

Things Are "Hot" at "Mill 1700." Two Poles of Competition at Kremikovtsi Economic Metallurgical Combine. What Do the Percentages Conceal?

What do the figures show? The 6-month plan for total industrial output has been fulfilled 102 percent. High results have been achieved by the young personnel of "Mill 250," who fulfilled their plan 105 percent, their ferro-alloy production plan 104 percent, their mine plan 104 percent etc.

If we rely solely on these percentages, we shall say that the results range from fine to very fine. If we make a more thorough analysis, however, we shall see that great failures lie concealed behind these high percentages. The situation is alarming in two of the basic production processes: "Mill 1700" and the slabbing-blooming mill.

The personnel fulfilled their 6-month volume plan 91 percent and failed to deliver for additional processing 79,245 tons of hot rolled sheet iron. Quality indicators fell short, too. The 6-month labor-productivity plan was 97.6 percent fulfilled, but an overrun of 1,468,000 leva occurred due to an increase in the production cost of output.

What are the reasons? Everybody I have talked to--workers and supervisors in combine and plant administration--says the reasons are objective and subjective. But whereas in other enterprises nonfulfillment of subcontracted deliveries and the lack of raw and other materials can be cited as

objective reasons, here in the combine the production cycle is closed and one collective's success depends exclusively thereon and on the people working before it.

One of the fundamental reasons for failure is the poor organization of labor. Production and technological discipline are unsatisfactory. Responsibility for the fulfillment of assignments is too low. In the past 6 months there were 173 days of absence without leave. True, as compared with the same period last year, they have been cut down, but this is not enough. Successful fulfillment of the production plan calls for high labor and technological discipline and responsibility from everybody. Only thus can the great and important assignments be performed right. Ten years have already passed since the mill was put into service, but the low skills of most of the workers are still cited as one of the reasons for failures.

Combine and plant supervisors and specialists are well aware that machinery must meet the requirements of production assignments if progress is to be made and technology improved. This rule, however, has been forgotten here. For 4 years no capital repair has been made on the mill's basic machinery.

"According to plan, repair was supposed to be completed last year, but reconstruction and modernization of certain basic assemblies of the mill were supposed to be completed, too," says Party Secretary Angel Nikolov. "This target date was not met. Nor did repair start at the beginning of April 1979 as had been anticipated."

In the opinion of all the specialists I talked to, the mill's basic machinery and assemblies are already obsolete and worn out. For good reason, high results cannot be achieved with such equipment, nor can the quality of output be improved. In recent years needs of the national economy have made imperative an increase in the production of special steels. "Mill 1700" has begun to produce "10-52 SAF" type steel, tin plate etc. But the personnel are not ready to measure up to the new assignments. Additional difficulties have been created in rolling, quality has deteriorated, and spoilage has increased. Thus, instead of progress, losses are inflicted on the national economy.

Old Weaknesses Continue

The Slabbing-Blooming Mill is rightly called the Gordian knot at the combine. If the plan is fulfilled here, all collectives after it--from hot rolled sheet iron to pipe-rolling--work well. If it falls behind, the production rhythm in all other plants is thrown off. If we leaf through the reports since it was put into service in 1966, we see that it has fulfilled its production program in only 3 years. Operations are going badly now, too. During the 6 months the program has been barely 93 percent fulfilled and less than 87,791 tons of steel have been produced.

Here, too, the reasons are the same: poor labor and technological discipline and incomplete utilization of production capacity. Basic machinery and assemblies are worn out and do not operate at full capacity. And this significantly reduces the chances of rolling the necessary amount of metal. The poor quality of the fireclay agglomerate likewise hampers the work. If to these weaknesses we add the plant's irregular supply of raw materials from electric steel production, it becomes clear why there have been 357 hours of stoppages from the beginning of the year up till now. When you consider that 6 tons of metal can be rolled in just 1 minute, you can see what a plague for production the stoppages are and what losses are inflicted on the combine.

"The production process at the Slabbing-Blooming Mill is complex. We produce about 50 metal sections and this hampers the work, too," says Chief Engineer Nikifor Nikiforov. "To improve organization, we have built three basic workshops. We have also set up brigades that operate on the principle of independent cost accounting. First results show that the right path has been chosen."

Indeed, the first stride has been made. But it will hardly suffice for a change to occur in the work. One of the fundamental questions that has to be decided as soon as possible is the reconstruction and modernization of the mill. According to plan, this was supposed to be done last year. But instead of reconstruction, only partial capital repair was done. A new target date has been set starting at the end of this year. There are no reasons for postponement; almost all the machinery and assemblies have been delivered.

6474

CSO: 2200

FASTER REPLACEMENT OF OBSOLETE MACHINERY URGED

Prague SVET HOSPODARSTVI in Czech 29 May 79 pp 1,2

[Article by Vlastimil Venta, Federal Bureau of Statistics]

[Text] Among the industrially most advanced countries we rank second in terms of our holdings of fixed capital stock. At the present time the value of this infrastructure has reached the Kcs 2.3 billion mark. Machinery, as an active component of the fixed assets category, accounts for Kcs 586.2 billion of this total volume of fixed capital stock.

In past years hundreds of new enterprises equipped with the latest production technologies have been founded, new towns and housing projects made up of housing units equipped with all amenities have sprung up, and new schools and health-care facilities have been made available to the public. Work on the construction of the superhighway network is proceeding at an ever faster pace. The Prague Metro, whose first two lines have been in service for quite some time now, is not only making commuting faster and more pleasant for citizens of Prague and for all visitors to our capital city, but has also become a source of pride for us all.

Fixed capital assets, working hand in hand with our human manpower resources, are the backbone of the social capital-replacement process. In comparison with all the other branches of the national economy most of these assets are concentrated in industry, namely to the tune of Kcs 782 billion, which accounts for roughly 35 percent of all of our economy's capital stock. Nearly 44 percent of our industrial fixed capital stock consists of machinery and equipment. The share of machinery and equipment in the total volume of fixed assets in industry is constantly growing, even though the rate of this growth has slowed down somewhat during the first 3 years of the current Sixth Five-Year Plan.

This otherwise favorable trend has been accompanied by the somewhat less than intensive retirement of physically and technologically obsolete machinery. This is borne out by the table below which shows the percentages of retired fixed assets in the form of machinery.

Table 1. Coefficients for the Retirement (Replacement) of Machinery in Industry as a Whole and in Selected Industrial Branches (in percent)¹

Branch	1975	1976	1977	1978
Industry as a whole, including:	1.6	1.8	1.7	1.6
Fuels industry	2.6	2.4	2.8	2.8
Power industry	0.6	1.0	0.6	0.6
Chemical industry	2.4	1.5	1.2	1.2
Engineering	1.0	1.3	1.2	1.2
Building materials industry	2.2	2.5	2.3	2.2

¹ $\frac{\text{retirement of machinery}}{\text{volume of machinery in place at start of period}} \times 100$

With the exception of industry, there was a falloff in the rate of fixed assets retirement during the first 3 years of the Sixth Five-Year Plan. Of all the selected industrial branches covered by the data in this table the power industry showed the absolute lowest rate of fixed assets retirement, while the fuels industry showed the highest rate. The chemical and engineering industries also show low rates of fixed-assets retirement. If we take into account the fact that the engineering industry is for all practical purposes the mainstay of scientific and technological progress, since it supplies the other branches of the national economy with modern technologies and accounts for a large share of our export sales orders, then the seriousness of this low fixed-assets retirement rate coupled with the low rate of machinery-stock replacement becomes all the more apparent.

The relatively slow rate of machinery replacement is also indicative of the longer turnover time of this fixed-assets category. While during the 20-year period between 1951 and 1970 machinery in the productive sphere of the economy remained in service for an average of 20.6 years, during the Fifth Five-Year Plan this turnover time became so protracted that it wound up increasing to 21.4 years for the entire period 1951-1975. This trend has continued during the Sixth Five-Year Plan. Overall, the machinery-stock turnover time in the productive sphere of our national economy has increased by 1 year or by 0.9 years in industry.

The engineering, metalworking and electrical and electronic engineering industries have been adversely affected not only by the longer average

turnover time for the replacement of machinery and equipment (1.3 years), but also by the absolute length of this turnover time (24.2 years). Considering that what we are talking about here are branches which supply the latest kinds of equipment to both the productive and nonproductive spheres of the economy, these are the branches in which it is most important that an intensive effort should be mounted to replace machinery stocks.

Another consequence of the slow replacement of fixed assets in the machinery category is the increasing degree to which machinery and equipment are subject to wear and tear. During the first 3 years of the current Five-Year Plan the level of deterioration of machinery and equipment in the productive sphere increased from 50.3 percent to 51.4 percent.

Table 2. Trends in the level of Deterioration of Machinery and Equipment (in percent)¹

	1975	1976	1977	1978
National economy as a whole	50.6	50.7	51.2	51.6
Productive sphere, including:	50.3	50.4	51.0	51.4
Industry	50.3	50.4	51.1	51.5

¹ $\frac{\text{deterioration (repairs) of machinery and equipment}}{\text{volume of in-place machinery and equipment}} \times 100$

All of this evidence leads one to the conclusion that progress toward the replacement of our fixed capital stock, primarily in terms of its machinery-assets component, has thus far been all too slow. Insufficient leeway is being created for the installation of up-to-date equipment and state-of-the-art machines, which are much less labor-intensive (by nearly four times) than the kinds of machines that are now being retired from service. Moreover, this modern machinery, with its high technical performance standards, ought to make a major contribution to raising our levels of productivity and to making our entire capital-replacement process more efficient.

The gradual raising of the technological standards of our industrial infrastructure should go a long way toward helping to build up a large enough manpower pool for newly built capacities endowed with state-of-the-art technical performance standards. Most importantly, this means that there would be an increase in the volume of partially and fully automated machinery. To increase the share of machinery in this category at an investment cost of Kcs 10 billion, coupled with a corresponding reduction in the amount of capital tied up in nonautomated machinery, would result in a savings equal to approximately 50,000 machinery-operator job slots. On a

two-shift work schedule this is equivalent to a labor savings of approximately 45,000 machinery-operator job slots. To achieve a savings resulting from the elimination of one machinery-operator job slot on the lower end of the technological scale (i.e., jobs involving the operation of non-automated machinery) means that it would be necessary to install automated machinery at a cost of roughly Kcs 200,000. The stepped-up replacement of fixed assets, mainly fixed assets in the machinery category, and the increased utilization of machinery stock will help to bring about a further increase in the performance-efficiency rating of our entire national economy.

11813

CSO: 2400

DOMESTIC MARKET CRITICIZED IN EDITORIAL

Bratislava PRAVDA in Slovak 11 Jun 79 p 1

[Editorial commentary]

[Excerpts] The targets of this year's retail trade turnover plan are higher than last year's plan by 3.1 percent in the SSR and by 2 percent in the CSR. In terms of the plan's basic structure retail trade turnover is slated to go up by 4.3 percent in the SSR and by 3.6 percent in the CSR in the foodstuffs category and by 2 percent in the SSR and 0.6 percent in the CSR in the industrial manufactured goods category. At the same time, the volume of total planned deliveries exceeds the projected volume of retail trade turnover by more than Kcs 11 billion for the CSSR as a whole, and so the plan is laying the groundwork for the building up of retail trade stocks and for the establishment of a general equilibrium on the domestic market. Planned deliveries of foodstuffs and manufactured goods are higher than last year. However, during the course of vendor-buyer negotiations individual industrial enterprises or general directorates reached contractual agreements which stipulate lower delivery volumes than those set by ministries with industry-wide jurisdictions. And so, as ever, we are still faced with some disputes and discrepancies which have to be ironed out during the course of the year. Wherever there exist truly objective reasons for this state of affairs that are a product of serious problems, efforts are being made, in addition to other measures, to look for ways in which to make arrangements for emergency imports and barter transactions, especially so in the case of scarce commodities.

Perhaps one of the most discussed and, among consumers, most criticized problems is the fact that there exists a shortage of certain lines of children's products. The reasons for this shortage are manifold, but one of them is the lack of interest in producing these goods on the part of manufacturers. It has been found that production organizations are disregarding the accepted rule which assigns priority to insuring increased deliveries of children's goods, since these products are not as profitable and are less favorably reflected in economic performance

indicators than are the production of product lines for the adult population. At the same time, both of the national ministries of industry, under the terms of an agreement with the ministries of trade of the CSR and the SSR, have pledged that they will increase deliveries of children's goods. Therefore, it would seem that the officials of lower-ranking production organizations are in essence ignoring the decisions and agreements reached at the ministerial level. To the extent that we do not heed the lessons to be learned from this situation and fail to supply appropriate sanctions and to the extent that we fail to take prompt collective actions, these kinds of outrageous practices will persist. Somehow or other we are becoming accustomed or reconciled to the fact that lower ranking officials are disregarding general public interests, interests which have been legally codified at central administrative levels. We prefer to get into the habit of taking quick action to "stamp out" a problem as such as opposed to eliminating the causes which gave rise to the problem in the first place and applying effective measures so as to make sure that similar sorts of problems do not take us by surprise in the future.

The Ministry of Trade of the SSR is taking all sorts of measures in order to insure that the market is stocked with adequate supplies of children's textile and apparel goods. For example, a rather considerable sum of foreign exchange resources were set aside in order to pay for imports of children's goods from abroad; foreign exchange funds were made available for the purchase of spun yarn on foreign markets so that producers' co-operatives would be able to manufacture and deliver to the market certain kinds of children's goods that are in short supply; retail trade stocks were also drawn upon to supply bulk fabric by the meter for producer's cooperatives, which in turn used this fabric to manufacture other products in short supply--especially children's clothing.

The biggest gap between planned deliveries and actual deliveries exists within the jurisdiction of the Federal Ministry of General Engineering. Even though it proved to be possible during business negotiations to close some of the gaps that existed in terms of the product-line fulfillment of deliveries, all kinds of discrepancies still exist in terms of the structure of goods sold and the structure of goods produced. This is especially true in view of the fact that the trade sector is placing orders not only in terms of volume and assortment, but also in terms of new types of products, which is only natural. But what is unnatural is the fact that out of the total orders submitted by trade organizations for new lines of products valued at a total of Kcs 1.5 billion, for the CSSR as a whole, which is equal to roughly 6 percent of the overall deliveries target set for the general engineering industry, this industry failed to confirm more than half of these orders. Out of a total number of 44 new product lines for which orders were submitted the general engineering industry only managed to confirm orders for 13 of these new product lines,

while orders for eight product lines were only partially confirmed and orders for 23 new product lines were not confirmed at all. At the same time, it is certainly true that we should bear in mind the fact that engineers are faced with some very challenging tasks and obligations to supply goods to foreign markets as well. By the same token, they have to contend with problems created by the fact that factories which are already supposed to be in production are still in the process of being built. And so difficulties keep mounting one on top of the other. But these problems are not insoluble. Party organs are also studying these problems, solutions are being found, and governmental organs are intervening wherever necessary. But there are still a great many problems that have yet to be resolved with respect to the performance of both production organizations and trade organizations; there are also a great many problems that have yet to be resolved along the lines of management and performance-review work, as well as in terms of the productivity ratings of each and every labor operation in the factories, and in relation to retail trade consumers. And in spite of the varied and numerous measures that have been taken in recent years, measures aimed at protecting the interests of the consumer, it has thus far proved to be impossible to bring about a significant improvement in terms of the integrity of retail sales practices. It goes without saying that even sanctions, nor for that matter preventive measures and the quality of consumer education programs, are not having the impact they are supposed to have. On the other hand, in the course of inspecting the quality of various product lines last year, organs of the State Trade Inspectorate determined that 1,983 product lines failed to conform to standards set by the Czechoslovak State Standards Bureau, and for this reason they issued orders suspending the delivery of products valued at Kcs 16 million.

11813

CSO: 2400

REDUCTION OF OIL-SEED IMPORTS REQUIRES MORE DOMESTIC PRODUCTION

Prague ROSTLINNA VYROBA in Czech No 5, May 79 pp 455-457

[Article by J. List, A. Prikryl: "The Importance of Low Erucic Acid Rape Cultivation for the CSSR Vegetable Fats and Oils Industry"]

[Excerpt] The vegetable oil and fat industry's annual production of approximately 140,000 tons of edible vegetable fats and oils provides over 50 percent of the fats needed by our people. The remainder is made up by the production of butter and other animal fats.

The steady growth in the consumption of fats leveled off in 1975 at 21.1 kg per person. The additional moderate growth that has been registered is in line with population growth.

From the standpoint of the people's nutrition, we can see a very positive development in the pattern of fat consumption: the consumption of animal fats has declined and the consumption of fats from vegetable sources has increased, and in the latter category the consumption of solid fats has been cut down, while the consumption of vegetable oils has increased.

Five national enterprises in the Czech and Slovak lands produce large quantities of a broad assortment of vegetable fats and oils, using the most modern technology integrated into a single system incorporating every process from the processing of the oil plants to the production of the final product.

Rape, sunflowers, soybeans, peanuts, palm-kernal and to some extent copra are the most important oil plants. They are processed in continuous screw presses, and after pressing the extract is dissolved in large-capacity extractors.

After further technological processes such as hydrogenation and refining, the oils thus obtained, either by pressing or by extraction, serve as the raw materials for the production of vegetable fats and oils.

After the oil has been extracted from the oil-yielding plants there remains a residual meal whose protein component contributes to the animal-feed supply of the country's agriculture.

Domestic production of oil-yielding plants amounts to 30 to 40 percent of the total quantity of oil plants processed by the vegetable oils and fats industry and is at present approaching 50 percent. In view of the fact that the domestic production of sunflower seed and soybeans can be considered marginal, the major domestic source of vegetable oil is rapeseed, the production of which has a marked effect on the balance of imports of oil-yielding plants.

At the present time we still depend on imports of oil plants to meet more than 50 percent of our needs. At the same time, worldwide exports of oilseeds, with the exception of soybeans, are falling. This drop in exports is most marked for CEMA countries and for developing countries. As a result, the capitalist countries share of oil-seed exports is increasing, reaching 90 percent of total world exports in recent years, while in 1965 it hardly amounted to 50 percent.

The reasons for this must be sought in the switch by producing countries to the export of final products or oils, and in the increasing utilization of raw materials for their own uses, which is characteristic especially of the developing countries.

Production capacities in the CEMA countries are increasing, but processing capacity is growing at the same time. Whatever surplus remains is used primarily to improve their balance of trade.

With the situation in imports and exports of oil plants being what it is, the importance and necessity of fulfilling the resolution of the CPCZ 15th Congress aimed at increasing the country's self-sufficiency in oil-seed production, becomes that much the greater.

The plan of action of the Ministry of Agriculture and Food, focused on "The Development of Oil-Seed Production During the Sixth Five-Year Plan," has as its objective increasing domestic production by 70 percent before 1980. In view of the short time available, expanding the production of rapeseed [alone] of the domestic oil plants can insure meeting the goal marked out for the target year of 1980. Rapeseed production this year will amount to 184,000 tons and, in the long-term plan, is calculated to reach up to 240,000 tons annually by 1990.

After familiarizing themselves with the plan for "The Expansion and Development of Oil-Seeds in the Sixth Five-Year Plan," members of the vegetable fats and oils industry were required to present their views on the planned development, taking into consideration the need to maintain the existing mix of oil-plants in the raw materials supply and the quality of the final product. The industry suggested making it a requirement that any increase in the production of rapeseed be achieved by increasing the amount of low erucic acid rape raised, and that it be made part of the objective that all rape production be oriented toward low erucic acid varieties.

Rapeseed oil produced in this country contains 45 to 50 percent erucic acid. With a production of 184,000 tons of domestic high-content erucic acid rape,

there would be in the fat starting products an average of 60 percent of rapeseed oil containing 45 to 50 percent erucic acid. The presence of such a high percentage of erucic acid-rich rapeseed oil in the fat and oil products would not only result in decreasing the biological, nutritional and dietetic value of the product, but would also be accompanied by a deterioration of its organoleptic properties, leading to an overall decrease in the quality of edible fats and oils.

If, then, the vegetable fats and oils industry is to maintain the existing quality of their products and gradually improve it, while at the same time increasing the production of rapeseed, it must retain the present mix of oils and not allow the amount of erucic acid to increase. A way to solve this problem while increasing our self-sufficiency in oil plants is for our enterprises to gradually switch to raising low erucic acid varieties of rape and to increase the production of other oil-yielding plants, especially sunflowers.

The worldwide trend toward expanding the cultivation of winter rape as the most important oil plant in the northern and temperate regions of the central climatic zone is characterized by the switch to new, higher-quality varieties of winter rape, which either lack erucic acid entirely, or contain less than five percent of it, and this switch is considered to be scientifically, economically and socially well-founded.

This change-over is understandably stimulated by a number of scientific works presenting evidence that a diet containing erucic acid has a negative effect on animal health. And even if we disregard this negative influence, which has not yet been demonstrated in humans, we still must judge rapeseed oil having a high percentage of erucic acid to be of lower quality, nutritionally speaking, since its digestibility is only 85 percent of that of soybean oil.

For the vegetable oils and fats industry and for public nutrition, the chief advantage of switching to low erucic acid varieties of rape, and thus erucic acid-free oil, lies in the qualitative change resulting from the beneficial fatty-acid composition. The elimination of erucic acid leads to a significant increase in the amount of oleic acid, and to an increase in the essential linoleic acid, while the amount of saturated fatty acids remains at the same level. When its fatty-acid make-up is altered in this way, the quality of erucic acid-free rapeseed oil approaches that of other high-quality oils such as soybean oil and olive oil.

The proposal made by the vegetable oils and fats industry, which was seconded by a number of scientific organizations, was accepted by the Federal Ministry of Agriculture and Food, and large-scale testing of new low erucic acid varieties of rapeseed from France and the FRG was carried out with its support. Very good results were obtained, especially in tests of the French variety "Primor."

MALT AS IMPORTANT EXPORT ARTICLE

Prague ZEMEDELSKE NOVINY in Czech 7 Aug 79 p 1

[Article by Ludek Motejlek: "Best Grain for Malt"]

[Text] Malt is an important and profitable export article for us. It is well known and in demand throughout the world. It is natural that we try to satisfy our customers' requirements for quality. It can be guaranteed only on condition that the malthouses receive good quality barley. Presently it is being decided what kind of barley they are going to obtain from this year's harvest.

At the beginning of this year, some agricultural enterprises signed so-called supplementary agreements covering selected fields and they pledged to grow on them the best quality malting barley. The agreements cover 207,000 tons of barley, i.e., more than one-third of the total which the malthouses are to receive from this year's production. From pre-sowing preparation until the harvest, the fields under observation are being cared for by 70 sponsors of the malthouses as well as by workers of the agricultural enterprises.

However, the caprices of this year's weather have had an impact on essentially all agricultural crops and they have not left out the selected fields of malting barley. Up to four stages of development were recorded in some fields, from ripened grain to fully heading ears. Nevertheless, part of the stands look very promising and the highest quality grain is being anticipated. The maltsters together with the farmers are seeking a replacement for the lower quality grain and pre-harvest analyses are assisting them in determining the malting quality of grain. As an exception this year, the agricultural enterprises will receive supplementary payments for all selected lots of select quality, without regard to their having concluded a supplementary agreement. This measure will enable the malthouses to receive all the suitable barley. Other price adjustments should also contribute to our receiving as much barley as possible for export as well as for our own breweries.

However, these measures alone will not provide us with good quality barley. Thus, for instance, of the 200,000 tons of select barley insured last year, 60,000 tons could not be considered of select quality. It happened only

because badly adjusted combine-harvesters damaged the grain, thus causing a decrease in its germinating ability. Well adjusted combine-harvesters, correct traveling speed, harvest of grain at the optimal degree of ripeness: These are the main indicators conditioning yield of quality malting barley. It will be necessary to drive the combine-harvester over some fields two times this year if the stands are not uniformly ripened. Also, preliminary cleaning and drying of the grain should be expected as a matter of course.

Many agricultural enterprises warehouse the malting barley for a certain period of time. As a consequence, the care for thus warehoused grain will also decide whether we will produce malt in sufficient quantity. It is a pity to waste even a quintal of grain, be it during the harvest or while warehoused.

CS0: 2400

DEVELOPMENT OF CAPITAL INVESTMENT IN AGRICULTURE

Prague SVET HOSPODARSTVI in Slovak No 82, 12 Jul 79 pp 1, 2

[Article by Doc Engr K. Janac, CSc: "Investment in Agriculture"]

[Text] The construction of agricultural buildings can avail itself of an ever broader range of new building materials from which our building industry is producing prefabricated designs of progressively greater scope.

The efficient utilization of building materials from our domestic raw material sources of silicates, ceramics, synthetic fibers, alloys and wood leads not only to the production of prefabricated components and parts but also to the erection of large-capacity facilities by assembly methods with all the required building characteristics. The latest developments in new design construction permit the utilization of new animal production technology through the application of comprehensive modern mechanization and automation.

Developments in Specialized Hog Production

These days with the full implementation of cooperation, concentration and specialization large-scale farms are being established for exclusive herd production with a capacity of 500, 700 or 1,000 head of hogs. These are farms with highly mechanized facilities, of modern design which serve for herd propagation, early feeding and fattening of the hogs, including subsequent processing of products in the meat industry and their storage. Following are the plans prepared for the construction and equipment of large-scale facilities up to the year 1990:

--Providing for the production of pork, pork products and lard with adequate products for the market every year. In the planned development of hog raising it is anticipated that one attendant can produce 100,000 kg of hog weight per year, that is, the production of 100 kg would take 2.03 hours of human labor;

--Orientation of construction with strong emphasis on intensification, efficiency and rationalization of agricultural production;

--Solving problems of cooperative relations with respect to the transition to operations thoroughly organized from the standpoint of industry by means of specialization and concentration of production.

In the last 4 to 5 years, we, as well as the CEMA countries, tested out several kinds of large-scale complexes for the fattening of hogs. Herds enclosed in a pavilion-like structure with pens without bedding and fed with full-bodied feed mixtures proved particularly good. The automatic regulation of temperature and relative humidity of the air also proved a definite requirement. So far, however, the problem of processing the liquid feces produced from high concentrations of animals has not been resolved satisfactorily.

The properties of hog excrement are creating the greatest problems for our water management with respect to pollution of the environment and particularly the subsurface waters and streams. When we consider that a single hog causes as much pollution as 3.8 inhabitants then in proportion the total number of hogs raised in the CSSR represents as much pollution of the environment as 168 million inhabitants. A high concentration of hog herds in a small area thus causes great problems in processing and further treating the liquid excrement produced.

The treatment of excrement from large-scale hog production is also currently the order of the day and many institutes and institutions are working on this, not only here but also abroad. This is a very important problem from the national economic viewpoint, inasmuch as it involves products rich in mineral nutrients which can be utilized very effectively in plant production.

In the interests of saving foreign exchange for the purchase of relatively expensive "terminals" to process liquid feces from large-scale hog production, abroad as well as here, we are manufacturing this kind of equipment of the "Agroclar" model. The cost of the Agroclar equipment represents about Kcs 4.5 million. At the present time the Agroclar terminal is being tested in use in several farms of southern Slovakia, such as the large-scale fattening pens for 7,200 hogs in Velka Calomij in the Velky Krtis okres.

In this case the animals are penned over grid-like flooring and the excrement produced is flushed away from under the grids by a stream of recirculated water into a collection tank outside the facility. From the tank the liquid feces are pumped into a curved screen of the Bauerhydrosieve type where they are separated into solid and liquid fractions. The solid fraction is hauled to a trailer for removal and use as composting, etc., and the fluid proceeds for further treatment into aeration tanks. After treatment of the liquid fraction, part of it is supposed to serve as recirculating water for further flushing of excrement from the area beneath the grid floors of the pens and the remainder, if the requirements of the water managers are to be met, is to be discharged into water courses or into containers for irrigation of the farm lands. Whether the terminal of

the Agroclar model manufactured in Czechoslovakia will fulfill the desired requirements will be demonstrated by the research under way.

Developments in Specialized Poultry Production

A substantial change in the production of eggs and poultry meat occurred after completion of large-capacity facilities, the so-called mono-units for exclusive breeding purposes. These are windowless, large-capacity structures permitting the propagation of up to 50,000 layers or 75,000 young chickens or broilers under one roof. They are equipped with air controls and comprehensive automation of the production (feeding, watering, collection and sorting of eggs, etc.). In order to achieve the desired goals they also took care of other very substantial problems along with the construction and mechanization, such as:

- The provision of adequate quality granulated feed as required for the specialized breeding of poultry;
- Breeding quality strains of poultry with respect to yield and fattening of broilers and their reproduction;
- Training specialists, from attendants to college-educated experts and research workers;
- Construction of industrial plants to process poultry meat, etc.

At the present time we can say that the production of poultry in our country equals world standards.

Developments in Specialized Breeding of Beef Cattle

One of the most important tasks in the development of all agriculture at the present time is the breeding of cattle, especially milk cows.

The construction of large-capacity facilities should be provided by the building industry's production of prefabricated components and parts from which structures can be built by the assembly system with all parameters being observed with respect to the investment limits of costs, concentration and efficiency of production. We must build especially those structures which prove to be cheaper through more economical designs and in which mass production technology is applied without more costly investment in machine operated lines.

The greatest problem in implementing industrially organized operations in the production of cattle involved precisely the handling and complete resolution of machine operated equipment. They solved the problems of suitable equipment for removing dung from the buildings (side-delivery rake, back-swept shovels, etc.), the capacity of overhead milking machines, pumping facilities for liquid excrement, suitable feeding systems for the animals, terminals for treating excrement, and such.

At present our agriculturists already have available a considerable number of newly developed design structures for large-capacity stables with stabling capacities of from 200 to 1,000 animals. In addition to these, other systems are also under development, as for example ZJDS (one-story frame farm structure designed by VUPS [Ground Construction Research Institute, Prague]), the MU-500 (designed by PPU Bratislava) and others. Many of these designed systems are already built and in use and are currently under observation as experiments under operational conditions. After they have been thoroughly checked out with respect to temperature balance, climate, operations, economy and reliability of the built-in mechanized and technological equipment they will be modified for reproduction in suitable climate regions of the CSSR. It may be stated that the production of cattle by industrially organized operations has achieved very good results here and in many cases we have surpassed even the developed countries of the world.

Dealing With Capital Construction in Sheep Breeding

Recently greater attention is again being given to the raising of sheep. Newer types of sheep pens with stabling capacities of 100 to 200 sheep have been developed and built. At the present time experimental structures with a stabling capacity of up to 500 sheep were built and these will serve, after thorough testing under operational conditions, as the prototype for building stables with even greater capacities by means of industrial organization of the work.

In connection with the construction of modern large-capacity sheep pens great attention was also given to fitting them with mechanical and technological equipment. For milking sheep, especially during the spring and summer months, we tested essentially three kinds of equipment: The stationary model ALFA-LAVAL, the stationary and portable model Agrostroj Pelhrimov DZO-16 and a mobile model Impulza imported from the GDR. Milking sheep by hand, as is still being done at present, has no place in large-scale sheep production. Greater attention will have to be given especially to mechanized feeding and watering in sheep pens in the winter.

New types of shepherd huts were developed for summer pasturing. In connection with winter stabling and summer pasturing of sheep it will be necessary to work out more effective equipment for shearing sheep and also the problems of organizing shearing and the industrial processing of broiler meat. For the grazing of sheep in mountain pastures it will also be necessary to arrange for shelters for lodging the sheep, especially during rainy and freezing weather in the annual transition period to which we also have not given sufficient attention.

Evaluation of current trends in agricultural construction indicates that we were greatly lagging in sheep breeding, a matter we must finally fully take care of in the Sixth Five-Year Plan. In comparison with foreign countries we will get in the forefront in this area too in the very near future.

The construction of large-capacity structures can be insured by the production of prefabricated components and parts from which structures of a building-like character can be made by assembly methods. These newly designed structures can provide for industrially organized operations by the use of the most modern mechanical and technological equipment which helps not only to raise the productivity of labor but also frees man to the greatest extent from laborious and dirty work.

8491

CSO: 2400

DIFFICULTIES APPARENT IN REACHING ECONOMIC GOALS

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 16 Jul 79 p 4

[Article by "Gz," datelined Berlin, 15 Jul 79: "The GDR Economic Growth Rate Continues to Slow Down; Statistics Reflect Inclemencies of Past Winter"]

[Text] The economic growth rate of the GDR for the first half of 1979 is considerably behind that for the comparable period of the preceding year. Even the growth rates designated in the plan for the national economy have once more been only partially achieved. This is indicated by the semiannual report regularly appearing in mid-July, published by the State Central Administration for Statistics in the GDR. Whereas for the comparable periods of the early 1970's growth rates of more than 7 percent, and even 8 percent, were still being calculated, a growth rate of 6 percent was calculated for 1976 and for the most recent years, about 5 percent; the figures are now being dominated by "fours." In contrast to previous practice, there is no comparable figure for achieved national income. Compared to the first half of 1978, the production of industrial goods increased by only 4 percent per working day (1978: 5.2 percent). The plan had designated an increase of 5.5 percent for 1979.

According to the Central Office of Statistics statement published in the SED central organ NEUES DEUTSCHLAND, the first period of the plan was affected by extreme weather conditions at the beginning of the year. Although the utilization of the National People's Army, the border troops, the People's Police, the civil defense, and soldiers of the Soviet army proved successful in limiting the negative effects of the poor weather conditions, there was still "considerable damage inflicted on installations and machines, on transportation and communications systems, on heating and water supply facilities, and on construction sites and agriculture. Avoidable interruptions and damage were caused by the lack of efficient action, particularly on the part of the Ministry for Coal and Energy." As the "scapegoat" for this neglect, the minister in question, Laus Siebold, was recently fired and replaced by State Secretary Wolfgang Mitzinger.

According to the report, planned production of industrial goods was "fulfilled in total." The backlogs which occurred in the early months have been dealt with, it continues to say; backlogs were still to be encountered in the chemical industry, however, since its facilities were the hardest hit by the winter catastrophe. In general, the machinebuilding, farm machinery, and vehicle production industries were also affected. It is interesting to note that the number of births for the first half of 1979, 118,000, is exactly as high for the comparable period of the preceding year. Also revealing is the fact that the annual bonus, the GDR's "13th monthly salary," has been increased by 10 marks in comparison to last year's: from 801 to 811 marks.

In contrast to the statistics for the preceding year, there are no figures for travel and tourist traffic. Even the figures for state expenditures for safeguarding the price stability of basic foodstuffs, rents, and cost rates have been selected in such manner that a comparison with the previous year is not possible. In any event, the figures for the partial results are far above the published growth rates.

The report naturally makes reference to the results for the first half of 1979 as "an expression of the great-economic performance capacity" of the GDR in the 30th year of its existence; it reminds one, however, that "the dynamic growth of performance in the national economy, particularly in industry and the necessary increase in the distribution of finished products, is the decisive prerequisite for the solution of all problems of social development."

CSO: 2300

GERMAN DEMOCRATIC REPUBLIC

GDR POLITICAL, ECONOMIC INITIATIVES TOWARD FRANCE ANALYZED

Hamburg DER SPIEGEL in German Vol 33 No 28, 9 Jul 79 pp 32-33, 36,38

[Feature article: "Wooing in Paris—SPIEGEL Report on the GDR's Political and Economic Efforts in France"]

[Text] From time to time, little Jean was allowed to play with Hermann Goering's electric trains. The boy was just four years old when, on the evening of 27 February 1933, from the bedroom window in the home of his father on Pariser Square in Berlin, he saw the flames coming from the cupola of the burning Reichstag Building; his name was Jean Francois-Poncet and he was the son of the French ambassador in Germany; today he is 50 and he is the boss at Quai d'Orsay [French Foreign Office].

On Thursday of last week, as the first foreign minister of the victorious Western powers, he planned to return to that part of the former German capital in which he spent his childhood, that is, East Berlin.

But just one day before he was to start on his trip, the expert on Germany postponed his visit. One week after the SED resolution—to the effect that the East Berlin deputies in the future would be allowed to be elected directly to the People's Chamber—the Frenchman did not want to play down this violation by the GDR against the city's four-power status through his visit.

Three months before Valery Giscard d'Estaing is to be the first French chief of state to appear in West Berlin, Paris thus demonstrated to the GDR its responsibility as victorious power for all of Berlin.

But the French obviously want to let it go at a symbolical gesture of protest. On 24 July already Francois-Poncet is to make up the visit for which East Berlin has been waiting since the establishment of diplomatic relations six years ago "with great patience" (Political Bureau member Hermann Axen).

Nowhere in the West does the SED have such lasting possibilities for contacts and influence as in France via the strong French Communist Party and

the labor union movement. In no other noncommunist country did so many persecuted KPD [Communist Party of Germany] emigres find refuge from the Nazis, starting with GDR founder Walter Ulbricht, who once upon a time was married to a French woman, all the way to Political Bureau members Hermann Axen, Kurt Hager, and Albert Norden.

And with no other capitalist country does the GDR so readily enter into cooperation in connection with big industrial projects (for example, in the auto industry) as it does with France.

The GDR leadership considers France to be its most important bridgehead in the West. Here is the ulterior motive behind this courtship: The French, so the East Berlin foreign policy makers figure out, would have to be interested in upgrading their relations with the GDR already in order to keep Bonn's constantly growing influence in Europe under control.

This is a by no means unrealistic concept. Not only France's left but also many conservatives believe that America is pulling the strings in West Germany and that the latter country has some very concealed lust for predominance. The fear of the French intelligentsia of a strong, united German state was summarized by the writer Francois Mauriac in the following statement which has now become a classic: "I love Germany; I love it so much that I am very happy that there are two of them."

It was especially elements of the Gaullist who again and again were inclined to play the GDR card in Bonn.

In 1970 already the left-wing Gaullist "Movement for the Independence of Europe," which included such influential politicians as former defense minister Pierre Messmer, came out in favor of the normalization of relations with the GDR.

Georges Gorse, information minister under Charles de Gaulle, reported in 1971 after his visit to East Berlin that his conversation partners had assured him as follows: "If the GDR did not exist, it would have to be invented especially for France."

After the start of diplomatic relations on 9 February 1973, Michel Jobert, the last foreign minister under Georges Pompidou, appeared to be fundamentally prepared to honor the SED state with his visit. And when GDR foreign minister Oskar Fischer, during his 1976 Paris visit was not received by President Giscard d'Estaing, because, according to the Quai d'Orsay, rather nitpickingly, considered this a "working visit" and not an "official visit," the former Gaullist foreign minister Maurice Couve de Murville expressed regret that France was not involving the GDR much more.

Although Giscard never gave West Germany the feeling of using the GDR as a pressure instrument, Bonn always registered the French-East German

dalliance with suspicion. "The French," according to a study by the All-German Institute in April, "utilize their relations with the GDR in order thus to demonstrate their Germany-policy concept whenever there are justified and unjustified speculations in the Western areas as to the chances of German reunification."

Thus the people in Bonn thought that they could detect "strikingly stepped-up visitor traffic" between Paris and East Berlin after first of all American and then French and German newspapers in the middle of 1978 had reported on alleged neutralization plans of the SPD [Social Democratic Party of Germany] with the ultimate goal of reunification

In July 1978, State Secretary Olivier Stirn was the first French high-ranking foreign-policy official to go to East Germany. In March, Herbert Krolikowski, first deputy foreign minister of the GDR, returned the visit; right after that, education minister Christian Beullac met for a conference with his GDR female counterpart Dr H. C. Margot Honecker.

"A kind of joint defensive reaction to the revival of the reunification discussion," commented experts on Germany in Bonn in a position statement.

In addition to the communists and elements of the Gaullists, the GDR, paradoxically enough, has another powerful pressure group in France: The CNPF [National Council of French Employers] which has always wanted to share in the flourishing East-West trade.

Thus, the industrial bosses three years prior to the recognition of the GDR under international law managed to open a French economic office in East Berlin. France was the first Western industrial country to sign a ten-year agreement on economic, industrial, and technical cooperation with the East German foreign trade officials in 1973, with emphasis on machine-building, electro-technology, chemistry, and shipbuilding. In 1976, the Societe generale Paris and the Societe generale alsacienne de banque Strasbourg were the first Western banks to open branches in East Berlin and the French government airline company Air France moved in during 1978.

Between 1973 and 1976, the total trade volume between the two countries rose from \$189 to \$402 million. To be sure, in 1977 business sagged by almost 30 percent but in February of this year, the East Berlin state secretary in the foreign trade ministry, Gerhard Beil, and Premier Raymond Barre, agreed on doubling mutual exports by 1980.

The Eastern trade officials, who are short of foreign exchange, did not even shy away from spectacular big purchases. In 1968 already the Schwarzhilde VEB Synthesis Plant signed a contract with an affiliate of the French Industry giant Schneider-Creusot on the construction of a chemical industry complex worth F245 million. Last year, France began to build a drive shaft plant (worth Fl.6 billion) at Zwickau. A part of the output is to be exported back to France by way of payment.

Just week before last, finally, the GDR ordered a fertilizer factory from Creusot-Loire, worth Fl.5 billion and thus beat out a cheaper offer from the British competition, probably as a gesture of friendship in connection with the planned visit to East Berlin by Francois-Poncet.

Compared to such business deals running into the billions, GDR shipments back to France mostly look rather modest; sometimes 25,000 pairs of socks; sometimes 10 tons of drapery material, 100,000 meters of silk embroidery, and 50,000 tablecloths, such as they were sold by the Wiratex Firm from East Berlin via the foreign trade firm of SORICE (Industrial and Commercial Transactions Company for Europe) which is co-managed by the French Communist Party.

Over the past 2 years the GDR always managed to turn the balance of trade, which had been negative until then, to its favor through forced exports of chemical products and machine tools (see graph on p 36 [of photostat, not included]).

From communists all the way to capitalists—in no country of the West does the GDR encounter such ideal conditions for its effort to win sympathy as it does in France with which dozens of top-level SED officials feel that they have personal bonds, ever since the days of Walter Ulbricht. Even after his separation from the Warsaw-born Frenchwoman Marie Wacziarg (cover name: Rose Michel) the former State Council chairman, who died in 1973, maintained this contact. The former Madame Ulbricht during the postwar years worked as a correspondent for L'HUMANITE (press card No 1167) in East Berlin and then as ADN [General German News Agency] reporter in Paris.

In the French capital, the Saxonian in 1936 prepared possible Popular Front collaboration with the social democrats in exile. Central Committee member Franz Dahlem lived in the Paris suburb of Ivry-sur-Seine as director of the Western office of the KPD with his wife Kaethe until the start of the war. In 1971, the communist-led community made the two German comrades honorary citizens.

"We are honored that you chose France as your home once upon a time," said Chief of State Georges Pompidou in talking to Ernst Scholz, the first GDR ambassador in France, when the latter handed over his credentials in 1974. "We are familiar with the solidarity which you expressed for the cause of our fatherland during particularly dark hours as well as the courage you displayed by the side of the French Resistance fighters."

After his return from the Spanish Civil War, Scholz joined the communist Resistance in occupied France and, after the Liberation in 1944, was made a French citizen.

Said former Resistance fighter Rene Andrieu, editor-in-chief of L'HUMANITE, in an editorial: "The French communists always expressed their solidarity toward the German antifascists."

Although the GDR by no means is a model for France's Communist Party--the better Germans, in its view, live in the East. Out of 39,348 teachers who were teaching in the GDR in 1945, according to Andrieu, 28,179 were discharged as Nazis. In West Germany, on the other hand, communists are allegedly persecuted and out of four presidents, only one--Heinemann--was an antifascist.

During the weeks of the European election campaign, the French Communist Party on some occasions daily launched half a dozen attacks against West Germany in its party newspaper. And in connection with the election of the West German president (headline about Karl Carstens: "The President's Brown Shirt"), the comrade editors commented as follows: "Germany threatens tomorrow to be governed by the former and neo-Nazis Carstens and Strauss."

For secretary-general Georges Marchais there is no doubt as to where the West Germans are headed: To the "dictate" of the men in Bonn. The Federal Republic is supposed to be almost "obsessed" with the idea of getting atomic weapons under its control. "All experts know," wrote L'HUMANITE, "that our army could hold out no more than two or three days if the West German armed forces were to get the idea of attacking us."

France's Communist Party--otherwise in the front rank when it comes to castigating real or presumed violations of human rights in the West--hardly ever criticized the construction of the [Berlin] Wall or the shoot-to-kill orders, while the latest reprisals against Robert Havemann were not even mentioned. When the East German police sealed off the apartment of the prominent SED dissident, the Paris party organ merely reported the following from East Berlin: "Weekend of Jazz in Berlin."

To be sure, France's Communist Party on several occasions criticized the expulsion of Wolf Biermann and four months prior to the parliamentary elections, which were to bring France's popular front parties to power in March 1978, complained that the expulsion of writers and singers from the GDR constituted "food for serious thought for a number of that country's best friends." Besides, according to L'HUMANITE, it is not credible that Rudolf Bahro "was supposed to have been imprisoned for intelligence activities."

But when the critic of the regime was sentenced to eight years in prison, the party organ commented on the verdict in just ten slim lines: "As far as we know currently, there is no indication that this verdict is justified in any way other than as a 'opinion crime.'"

It was probably also a matter of tactical calculation when secretary-general Georges Marchais, prior to the parliamentary elections, wanted to demonstrate his party's independence by refraining from shaking the hand of Soviet chief of state Leonid Brezhnev during his state visit to Paris. The comrades in the East Bloc had been rubbed the wrong way

by the Frenchman earlier when he caused the concept of "dictatorship of the proletariat" to be deleted from the party program and proclaimed a "socialism in French colors."

But the conservatives won the elections and the presumed Eurocommunist promptly also once again stepped up contacts with East Berlin. In December of last year, NEUES DEUTSCHLAND reported the following in a headline: "Comradly Meeting Between Erich Honecker and Georges Marchais." The Frenchman was supposed to have gone to the GDR for a vacation trip. Political Bureau member and Central Committee secretary Hermann Axen honored the French with a bronze relief of Wilhelm Pieck on the occasion of their party congress.

In spite of the intermittent and mostly quickly settled differences between the brother parties, the French comrades loyally support the GDR in their effort to establish social and community contacts.

About 200, mostly communist-governed communities have partnership relations with GDR cities, such as Weimar with Marly, Wismar with Calais, Zwickau with Saint-Denis. But these contacts are mostly one-way; the desired goal—meeting between citizens of both countries—is only on paper. Official GDR delegations—private citizens only rarely—get permission from the GDR authorities to leave the country. In 1977, the French embassy in East Berlin registered a total of 3,000 visa applications.

Officially, the East Germans explain the commitment, which is so disappointing for France's communists, by saying that there is no consular agreement as yet with Paris; GDR citizens, who get into trouble in France, could hardly ask the West German mission for assistance.

In point of fact however the GDR—in addition to the foreign exchange necessary for an intensive exchange program—still lacks confidence in the loyalty of its citizens.

Instead, East Berlin above all builds on a French organization which State Council chairman Erich Honecker recently praised as a "far-sighted trailblazer" for understanding between the GDR and France, that is, the "Association France-RDA" (France-GDR Friendship Society), with a membership of 16,000, constantly in action since 1958 when it comes to upgrading the second German state.

The members constitute a motley list of celebrities as well as people from politics and sports: Mitterrand confidant Claude Estier; Tour-de-France victor Roger Pingeon (1967); France's first ambassador to East Berlin Bernard Guillier de Chalvryon, imprisoned in the Buchenwald Concentration Camp between May 1944 and April 1945; the bicycle racing world champion Jean Stablinsky; former president of parliament Edgar Faure; the Gaullist deputy Georges Gorse; writers, clergymen, and hurdlers.

In the association publication RENCONTRES (Meetings), the GDR advertises for vacation opportunities in Gernrode (Harz), Wittenberg, and Kuehlungsborn on the Baltic with an obligatory two-day visit to Berlin. French teachers are offered 26-day summer courses at GDR Universities for about M600 while students pay M450. The program furthermore includes help during the harvest and vacations for youngsters, language courses for students of German and study trips on the topic "Development of Sports" or "GDR farm policy."

To show the French what East German dressage is like, a state circus of the GDR staged a guest performance in Paris in January 1978: Hogs twaddled in step on their hindlegs; an elephant rode a tricycle through the circus; animals provided the required degree of friendship and, above the whole thing, there fluttered six flags with the hammer and sickle. Droned the PA system: "Berlin, Capital of the German Democratic Republic, Greets Paris."

At the "Festival of L'HUMANITE," the traditional celebration of the communist party organ in the Paris suburb of La Courneuve, Olympic swimming champion Roland Matthes stuck a red button his jacket: "I am a Communist—why not you?" On French television, Ruth Fuchs, the GDR gold medal winner in the javelin, had these words of praise: "I am very much impressed by this entire atmosphere."

L'HUMANITE devoted a whole page to the athletic successes of the East Germans and concluded: "Today, the whole world knows and respects the anthem and flags of the GDR."

In spite of all of these efforts, the SED's sympathy drive is making headway only among certain strata of society: Communist cadres, elements of the Gaullist, artists and intellectuals. For the majority of the workers—and the France-GDR Friendship Society knows that only too well—Germany is still identical to the Federal Republic. The GDR still cannot correctly evaluate the people: A phantom somewhere between the Wall and the muscles of the athletes, the goose-step, barbed wire, and relay races. Even such newspapers as LE MONDE, which are moved by the German issue—except for spectacular cases involving dissidents—only rarely report about developments in the GDR; television at best reports GDR sports successes during the Olympics.

France's conservative government—in spite of its readiness to engage in trade—is not a comfortable partner, as proved by the postponement of the minister's visit. Weakest among the four victorious powers emerging from World War II, France is much more relentless than the British in insisting on the rights of the Allies.

Thus, negotiations on a consular agreement in the middle of June ran into the stubborn refusal of the French to recognize a separate GDR citizenship. The more pragmatic British on the other hand back in

1976 included a compromise clause according to which the settlement of the nationality question would be handled in keeping with the particular national legislation--something which in point of fact is tantamount to a recognition of GDR citizenship although it gives every GDR citizen an opportunity to have his interests represented also by the West German embassy. Said Francois-Poncet: "Not an example for us."

Just how painstaking Paris usually is in interpreting its rights as a victorious power is something which the GDR learned back in 1973, right after diplomatic recognition. The French wanted to move their mission outside East Berlin city boundaries, for example, to Potsdam--in order not to have to accept East Berlin as the capital of the GDR. The GDR on the other hand insisted that the ambassador could only move into quarters in the capital.

The dispute went on for a whole year. Then the French apparently gave in and moved into 40 Unter den Linden--of course not without playing a final trick on the GDR. According to the appointment law, the French chief of mission has the title "extraordinary and plenipotentiary ambassador with the GDR."

Not, as would have been in keeping with international diplomatic custom, "in" the GDR.

5058

CS0: 2300

LONG-RANGE ENERGY PROGRAM FOR VEHICULAR TRAFFIC OUTLINED

East Berlin DDR-VERKEHR in German Vol 12, No 6, Jun 79, pp 184-188

[Analysis by Dr Helmut Walter, engineer, Ministry for Transport, Main Administration for Science and Technology: "Selected Problems of a Long-Term Energy Policy Within the Transport System"]

[Text] 1. General Problems in the International Picture of Energy Production and Energy Consumption

The development of the energy economy and the coverage of energy requirements is at center stage today in all national economies.

The solution of these problems is of such major importance because any broadening of the material production basis and thus the social development depends increasingly mainly on sufficient availability of appropriate energy carriers.

This development trend of a constantly increasing energy need, however, has also revealed the acute problem of the exhaustibility of natural energy resources in as yet unknown acuity.

Under these aspects, the distribution of the world's supplies in the chief natural energy resources (Table 1) such as hard coal, crude oil and natural gas is here of interest [1, 2]. However, we must take into account that the international statistics of the world energy reserves are subject to considerable differences in interpretation.

The yearly increase in world energy consumption by approximately 5.6 percent alone, which we have seen to date, shows an exhaustibility of petroleum in the years between 2000 and 2020, of natural gas and around 2015 to 2030, and of hard coal by around 2040 and 2080. Even discoveries to date not economically feasible and the discovery of additional reserves would not lead to any large-scale changes on the time horizons because, due to the still existing substantial differences in installed power (0.1 to 0.3 kW/person) of the developing countries and of the highly developed

Table 1 - World Energy Supplies of Selected Conventional Energy Carriers
[2, p 23] [All figures approximate*]

Energy Carrier	World Supplies		Produced To Date	Participating Chief Regions
	assured	possible		
	Gt SKE	Gt SKE	Percent	Percent
Hard coal and brown coal	600	9,250	25	USA (30) USSR (18) China (15)
Crude oil	200 (134 Gt)	380	35	Near East (50) USSR (8)
Oil from shale or sands	100	1,100	5	Canada
Natural gas	100 (82 Tm ³)	370	10	USSR (30) Near East (25)

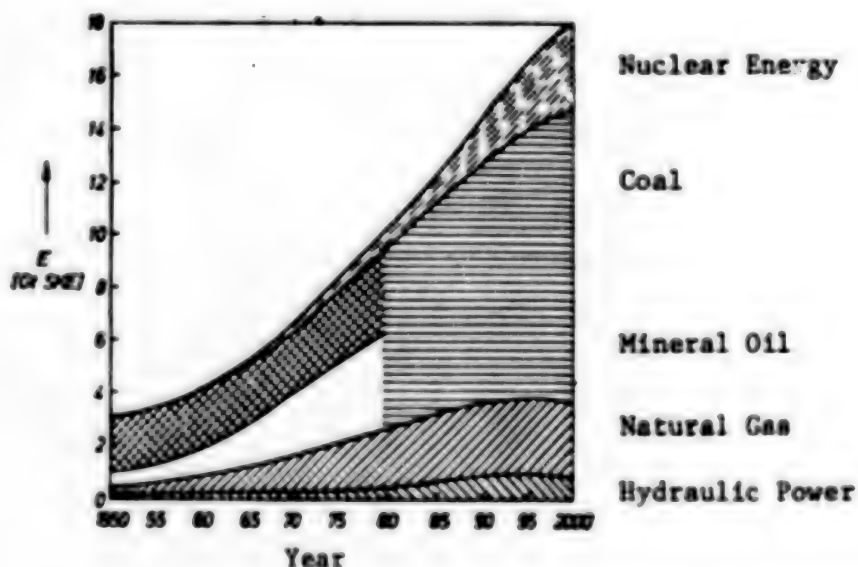


Figure 1. The growth of world energy consumption

Key: SKE--Hard coal units.

industrial countries (8 to 10 kW/person), a more rapid yearly increase in the world's energy consumption must be anticipated (Figure 1).

Solutions for a sufficient energy supply for mankind must therefore not meet with any delay. Whereas it is especially in the United States and the USSR that great efforts are being made to force not only nuclear fission via the fast breeder, but also nuclear fusion into economic technological paths, the technological large-scale development of solar energy irradiating the earth at $1.73 \cdot 10^{17}$ W is still faced with considerable problems.

Even an only partial utilization of this almost inexhaustible nonconventional energy carrier will therefore remain for future generations, so that our present endeavors must continue to concentrate on a rational consumption of the generated energy in order to contribute to a more extensive conservation of the available conventional sources of energy.

This still holds even in spite of the increasing disproportionality in the distribution of the world's energy supplies and thus among the energy production and energy consumption.

For example, the capitalist countries of Western Europe have consumed 671 Mt of oil in 1977, but generated only 66.8 Mt, whereas in the countries of the Near East 1.08 Gt were produced, whereas only 90.2 Mt were consumed [1].

In addition, especially in the countries of Western Europe and in Japan, without much in the way of raw material, a strong structural change in primary energy consumption has proceeded from solid to liquid fuels, which has even further increased dependence on imports (Table 2).

Table 2. Structure of Primary Energy Consumption in Selected Capitalist Countries [2, p 16] (Proportions in percent)

Year	1955	1965	1975
Western Europe			
Solid fuels	77.9	49.0	25.1
Liquid fuels	18.4	44.7	54.8
Japan			
Solid fuels	70.4	37.0	19.9
Liquid fuels	20.2	56.6	73.5
USA			
Solid fuels	30.9	23.9	22.3
Liquid fuels	42.6	41.7	44.3

The energy economy belongs therefore to those vital sectors in national economy which are closely connected with international distribution of labor. Today, no country alone can master the tasks connected with the development of new energy resources.

In the member countries of the CEMA too, a number of complex problems are arising which originate in the extremely unequal distribution of primary energy carriers, the increasing mining depth, and the deteriorating hauling conditions because of unfavorable climatic and transportation conditions. A typical example of these complex problems is brown coal open pit mining in the GDR, which is not expressed only in the increasingly more unfavorable ratio between overburden and coal, but is also connected with the dropping heating value of brown coal. Therefore, the development of the energy basis must be looked upon in addition to readying increasing energy raw material amounts and capacities in a close relationship to a more effective and rational utilization of the energy produced.

2. State of Energy Production and Consumption in the GDR

The continuing development in the national economy of the GDR is connected at the same time with an increase in the need for fuel and energy.

The objective for an increase in the effectiveness of energy utilization in the national economy consists in:

- balancing a considerable portion of the increasing energy need by a reduction in the specific energy consumption of conventional technologies, and
- creating the necessary conditions for the greatest possible utilization of domestic energy carriers.

In order to reach these objectives of the 1976-1980 Five Year Plan towards rational and economic energy utilization, a drop in consumption energy intensity (specific energy consumption related to the goods production at constant plan prices) by 4.7 - 5.0 percent and of the electrical energy intensity by 2.8 - 3.0 percent per year is necessary [3].

This corresponds to an equivalent of $45 \cdot 10^6$ t raw brown coal [4]. Major portions of these savings must be achieved by:

- efficiency increase in energy conversion
- increased utilization of secondary energy reserves
 - improved heat damping and regulation of heat in space heating
- increase in the energy efficiency at energy utilization facilities and
- utilization of heat-power coupling.

Because of the complex international raw material situation, the GDR must with increasing intensity resort to domestic raw brown coal, of which it produces, at a ratio of only 1.8 to 2.0 percent of the known world supplies, about 28 percent of world production. For the year 1977, this amounted to 253.7 Mt, compared to 137.1 Mt in 1950 [5]. This means that two-thirds of the consumption of primary energy can be covered, or 83.3 percent of electrical energy can be generated. This stable energy policy of party and government based on domestic solid fuels had already been achieved at a time when the world market price for 1 ton of crude oil was only \$10 to \$12, and thus initiated the structural change already mentioned from solid to liquid fuels in the capitalist countries.

Today, at a world market price for petroleum that has risen more than six-fold, we can build upon the results of a proven anticipatory energy policy.

By increasing the capacity of existing open mining by 35 Mt and by opening up 7 new ones during the present Five Year Plan, we will create the preliminary conditions for a continuing increase in raw brown coal production. The remarkable progress in coal production is also reflected in an increase in electrical energy generation, which amounted in 1977 to 92 TWh (compared to 19.5 TWh in 1950) [5].

In addition, directed work is being done on using energy carriers such as oil, natural gas and pit coal to be imported ever more effectively in order to obtain with daily use, for example 52 kt petroleum and 32 Mm³ natural gas high quality initial products, especially for further processing in the chemical industry.

It is for this reason that the energy imports anticipated for the current Five Year Plan from the USSR—88.2 Mt oil; 21.6 Gm³ natural gas; 21. Mt pit coal—are of such great importance for a stable development of our economy [5].

3. State of Working Energy Development in the Transportation System of the GDR

3.1 State Reached

The share of public transportation in the working energy consumption of the GDR amounted in 1977 to approximately 15 percent [6].

Adding the individual traffic per private cars and its considerable increase rates, taking into account the strong increase in transportation performance, but also heeding the success achieved in lowering specific energy consumption, this component can be expected to be approximately 20 percent for 1980. This means that transportation will continue to take third place among the energy consumers in the economy of the GDR.

The majority of working energy in transportation is used in car drives which lies in transportation at approximately 80 percent. If we include all vehicle drives operating in the GDR, 22.8 percent of the working energy requirement was needed in 1977 in the GDR for this purpose [6, p 104].

For the reasons listed, all efforts must therefore be directed towards an energy-economic structuring of the transportation processes.

3.2 Energy Consumption by Transport Carriers

The transportation and transfer requirement arising through important effect factors in industrial goods production, in national and international work division, distribution of productive forces as well as mobility of the population must be satisfied by the various transport carriers with rational energy utilization.

The development of freight and passenger transportation capacity as determining factor of the energy consumption exhibit, in the past and in the present Five Year Plan, a continuously increasing trend.

If we look at 1977 (Figure 2), we obtain the shares of energy consumption for the individual traffic means, which for the German railroad [DR] still reaches over 35 percent (more than 40 percent without individual means of transportation).

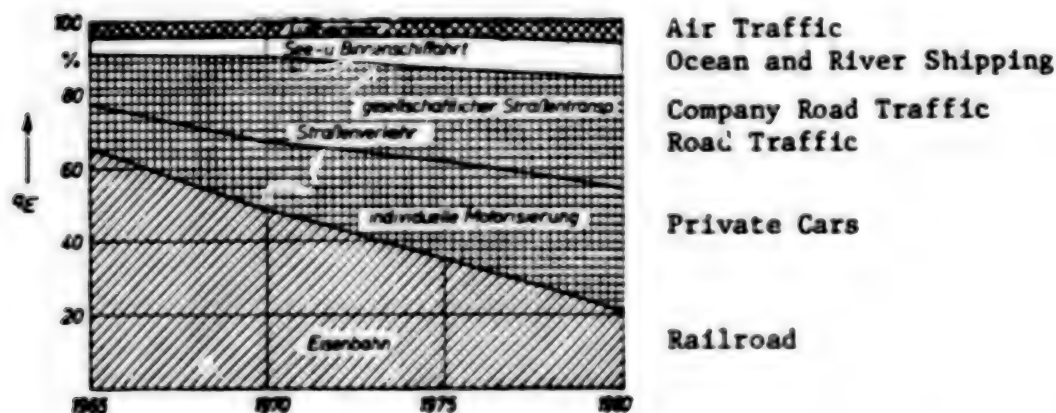


Figure 2. Development of percentile share q_E in working energy requirement of transport carriers in the GDR up until 1980

If we submit for the individual transport carriers a specific energy consumption, as can be seen by order of magnitude in Figure 3, the development of the percentile share q_E in the working energy requirements of the transport carrier in the GDR can be shown up to 1980 according to Figure 2 [7]. This illustrates the remarkable drop in working energy consumption

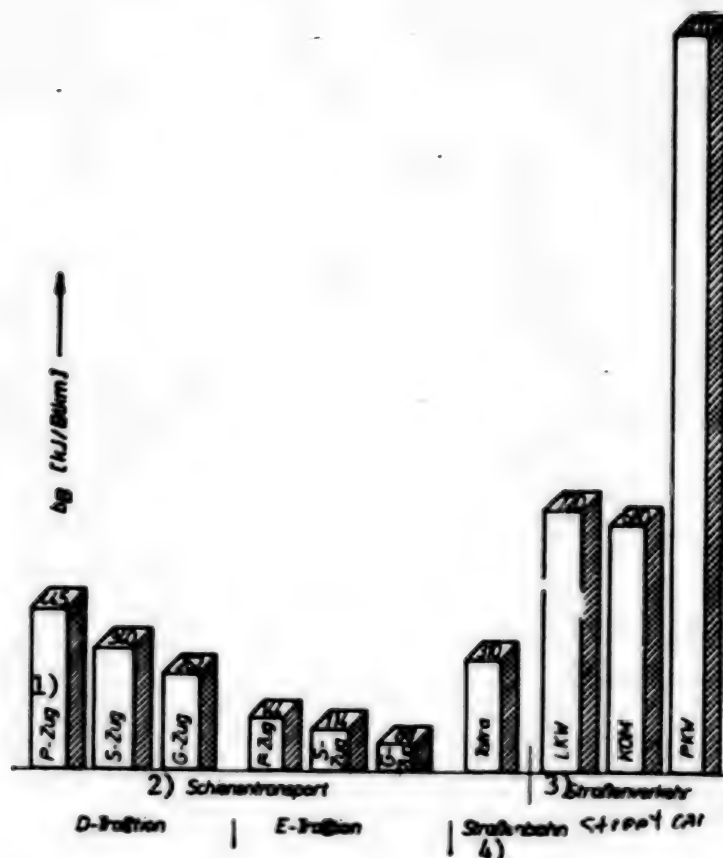


Figure 3. Specific Energy Consumption b_g of Surface Vehicles

- Key: 1) Zug = train
 2) Rail transport
 3) Road traffic
 4) Streetcar

at the railroads which, in spite of a 33 percent increase in transport capacity between 1965 and 1976, is expressed in a reduction in the percentage component q_g in consumption energy requirement by one-third.

With the goal of complete replacement of steam traction in the 1981-1985 Five Year Plan and the increased use of electrical traction, which, as far as energy is concerned, is preferable over Diesel traction, this development will continue in the future.

Taking into account all factors substantially acting on specific energy consumption (such as drive resistance, speed, trailer load, load of transportation means, distance between stops and start frequency as well as operation), the estimate is made, especially taking into account an

increased individual motorization that the share of working energy of the railroad will drop from approximately 65 percent in 1966 (according to Figure 2) to an order of magnitude of 20 percent in 1990; and, of the public and private road traffic will increase from approximately 25 percent to an order of magnitude of 65 percent.

3.3 Energy Consumption by Energy Carriers

Electrical energy and diesel and carburetor fuel have gained increasing importance as drive energy in the use of energy for consumption.

The traction conversion in the DR led, in conjunction with the increased consumption resulting from the capacity increase in other transport carriers and increasing individual motorization, to a substantial reduction in the proportion of solid fuels and a considerable increase in that of liquid fuels (Figure 4). If we base this on data on the share of energy carriers in total consumption for 1971 [6, p 113], and for 1973 [8, pr 19 and 67], we can draw the conclusion from the development that at present in the GDR 50 to 60 percent of diesel fuel (Figure 5) and 60 to 70 percent of carburetor fuel must be used for public and private transportation.

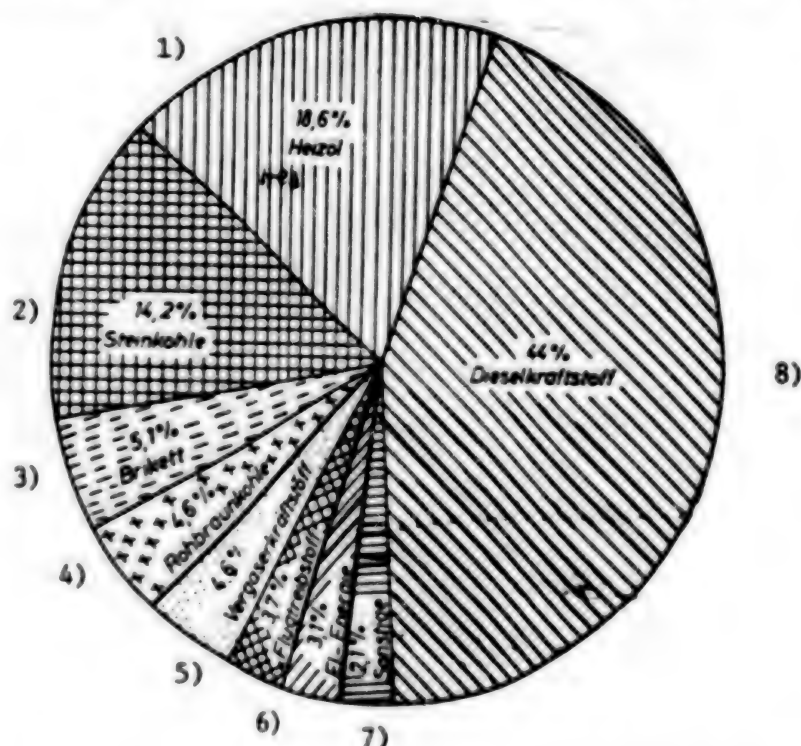


Figure 4. Distribution of Working Energy Consumption by Energy Carriers Without Private Vehicles

Key: 1)	Heating oil	5)	Other
2)	Hard coal	6)	Electrical energy
3)	Briquets	7)	Airplane fuel
4)	Raw brown coal	8)	Diesel fuel

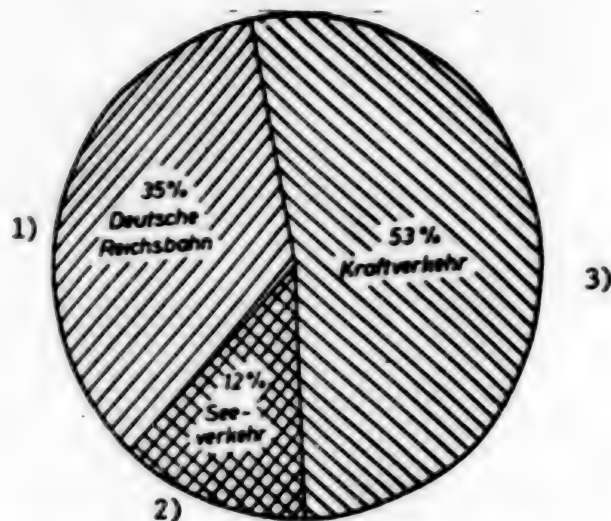


Figure 5. Distribution of diesel fuel consumption in the individual traffic carriers.

Key: 1) DR
 2) Ocean traffic
 3) Motorized traffic

The working energy carrier electrical energy participated in 1973 at 2.61 percent in the total energy consumption of transportation [8, p 19], and thus representing within the framework of the national economy an order of magnitude which must be realized at any time.

With the increasing electrification of the railroads and an increase in electrical short-distance traffic in local transportation affected by increasing motorization, absolute electrical energy consumption will increase accordingly, and the percentile share should lie at present around an order of magnitude of 3.0 to 3.5 percent.

This percentile representation of the development of working energy requirements in transportation and its transport carriers must not obscure the fact that, provided the present scientific technological condition is maintained, and additional transport capacities are expected for the years after 1980, an absolute increase in working energy requirements is unavoidable, which would rise to approximately 150 percent by 1990, without the execution of directed energy-structural and energy saving measures.

4. Development Trends and Possibilities Towards Rational Energy Utilization in Transportation

4.1 General Development Trends

In the Five Year Plan sector from 1981 to 1985, the specific energy consumption of vehicles must therefore be further lowered with the objective of safeguarding in spite of a capacity increase of the vehicles an almost constant absolute energy consumption. On the whole, an energy-economic rationalization effect in an order of magnitude of about $19 \cdot 10^{15}$ joules must be attempted for the period considered by lowering the specific energy consumption for the chief traffic carriers.

The endeavors embarked upon to date towards realization of the ambitious task formulation mentioned are not, however, sufficient to write off in the more distant future the planned goal of an almost constant absolute energy consumption.

Since, with completion of traction conversion, in the coming five year plan simultaneously the most important source of energy saving to date can no longer be used, we need additional efforts in order to keep a further increase in absolute energy consumption in transportation as low as possible.

However, such efforts must be directed not only to related problems in energy consumption reduction, but also to such problems which evolve from the increasing exhaustibility of fossil energy carriers, especially petroleum.

By and large, the present development again illustrates very clearly that there must not be any postponement in a solution to the energy problems.

It also indicates the urgency of sequence of petroleum becoming scarce first, and that especially the transportation and thus the vehicle industry most strongly dependent on petroleum must search for improved solution variants for saving diesel and carburetor fuel.

Any further increase in the efficiency of energy use in transportation must be obtained chiefly on the two approaches of:

- reduction in specific energy consumption of conventional technologies;
- increased use of electrical energy on the basis of domestic energy carriers.

Therefore, such techniques and technologies as [must be developed]:

- creation of the necessary conditions for an increased relocation of transportation in road traffic to railroad or domestic shipping;

- accelerated continuation of electrification in the railroad;
- increase in the proportion of electrically driven short-distance means of transportation (subway, street-cars, double-decker buses);
- increased effect on the energy quality properties for import and domestic manufacture of transport means;
- increased use of structural elements and semiconductor technology (thyristors, pulse setters, microprocessors etc.) to produce low-loss controls and drives for the vehicles;
- development and introduction of energy-saving steering measures for traffic flows, especially in metropolitan and congested areas;
- enforcing of an optimum energy type of driving and operation in the use of vehicles; and
- increase of the level of diagnostic technique, especially for carburetor, ignition or injection pump setting.

All these measures lend themselves to achieving considerable fuel savings in the immediate future, serving at the same time an effective improvement in the environmental protection in transportation.

The utilization of these possible reserves, however, has technical and technological limits even with further cost increases for fuels, since for example certain advantages of the automobile (generous use, easy availability etc) would not be eliminated even with increasing energy costs.

It therefore becomes necessary to make step by step preparations for alternative solutions with a further scarcity in fuels for both fuels and drive systems.

The technical solutions offered to date for the use of alternate fuels (methanol, hydrogen, ethanol, propane-butane mixtures etc) fail in most cases because of the costs which, however, might become more economically feasible if there are further price increases for conventional fuels.

Similar treatments can be made for the electric motor drive via storage cells, where even basic problems in the increase of energy density, storage capacity and overloadability of the vehicle battery as well as its load technology need be cleared up.

4.2 Possible Influence on Energy Consumption

The nucleus of an energy policy in transportation directed towards future problems consists in the rational use of diesel and carburetor fuel.

In addition to the optimum energy structuring of the transportation processes, and an improvement in essential technological factors (increase in the efficiency of drive systems, use of vehicles in energy-favorable acceleration and speed ranges, etc), the energy consumption can be controlled rationally by appropriate work division between the transport carriers and the selection of drive systems.

According to the volume of the transport branches and the transport capacities realized by them, an appropriate task division between railroad and road transportation is of chief importance in rational energy application.

Thus, studies have shown that approximately one-half of the domestic long-distance transports of public freight transfer favor railroad traffic.

Improvements in energy use can also be achieved by transport shifts from company traffic to public traffic, or domestic shipping. These energy advantages of rail transport are further increased by the possible utilization of a comprehensive electrification so that the energy expenditure for freight transports by rail amounts, depending on the type of traction, to only 30 to 60 percent compared to road transport, and to only 35 to 85 percent in passenger transportation as compared to bus traffic.

Also the expansion of electrical short-distance traffic will bring about considerable energy advantages if we take into account that on a yearly average related to kilometer per person only 25 percent for streetcars and only 33 percent for buses are required in energy compared to power buses.

When creating the necessary conditions for transport shifts, increased electrification of tracks and expansion of the electric short distance traffic, a saving of $4 - 5 \cdot 10^5$ t diesel fuel could be achieved in the years after 1985. Achieving the preceding ambitious goals, however, is possible only if concrete measures can be safeguarded not only for a concentrated use of F/E potential, but also in the project planning and construction.

In addition to this group of problems, more attention must also be directed in the future to an optimum energy construction of vehicles and their drive systems. Here, such construction principles must be realized which, without more energy expenditure, allow easy mastering of driving and area resistance and also permit the most loss-free conversion possible for the working energy used in the necessary traction forces and capacities.

An additional major point of emphasis of energy-economic thought and action should be the constant effect on usage technology of the means of transportation and the type of driving and operational use.

- Increased utilization of the deceleration curve during the drive;
- the proper selection of switch-on and switch-off points, as well as the switch duration on the individual drive stages;
- the type of acceleration in the driving stages and runs;
- the interaction between traffic control as a function of traffic flow,; and
- adherence to permissible idling duration, etc;

represent appropriate measures which in concentrated application would lead to considerable energy savings without additional expenditures.

Thus, only the reduction of annual fuel consumption in public and private vehicles by only $\frac{1}{2}$ percent will lead to savings of $2 \cdot 10^4$ t carburetor fuel and over $1.0 \cdot 10^5$ tons in diesel fuel.

Further savings can be made by using technical means, such as microprocessors and on-board computers on motor vehicles to orders of magnitudes of 10 to 15 percent.

A further influence factor of energy consumption lies in good maintenance, especially of the drive systems of the vehicles.

This includes for combustion engines:

- regular servicing and maintenance of the air filters and ignition devices,
- the carbon monoxide-proper idling setting in Otto motors and the low rust setting of diesel engines;

for motor vehicles in addition:

- the accurate load-dependent tire pressure setting;

for electrical motors:

- the checking of rotating properties of the commutator;

and in electrotraction:

- the perfect condition of drive lines and switch devices of energy transfer.

Only with maintaining the legal regulations for exhaust gas checking of motor vehicles, accurate setting of carburetor and injection pumps by means of modern diagnostic and measuring technologies, converted to the motor vehicle park operated, annual fuel savings in the amount of approximately $10 \cdot 10^4$ tons can be obtained.

Analogous possibilities of a rational energy utilization are also possible in electrical rail conveyance and in the electrical short-distance traffic, as well as in the sector of stationary energy conversion facilities.

Especially in the latter sector, better utilization of primary energy by effectiveness improvement and further utilization of the remaining secondary energy from waste heat and testing processes etc, must be attempted on the basis of process analyses.

5. Perspective

An attempt has been made with these deliberations to indicate the trends, interrelationships and possibilities which may make an effective contribution to the solution of the urgent problem of rational energy utilization in transportation. More than before, orientation must go from the scientific-technological preparation to transfer of transport means and devices extending to the prescription, maintenance and downgrading of energy-economy characteristics. In addition, the material-technological means must be concentrated on such projects of the socialistic rationalization which contribute to a high efficiency of energy carriers used.

A directed administration is to create the necessary conditions to bring the technologic-organizational measures anchored on all planes of responsibility and all sectors of transportation to a high energy-economy benefit.

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FRG ANALYSIS: CHEMICALS CURTAILED IN GDR AGRICULTURE

Bonn INFORMATIONEN in German No 10, Jun 79 pp 11-13

[Report of FRG Ministry for Inner-German Relations: "GDR Agriculture: Departure From 'Extensive Use of Chemicals'"]

[Text] GDR Agriculture is witnessing a retreat from the "comprehensive use of chemicals" decided at both of the last SED congresses in 1971 and 1976. The NEUE DEUTSCHE BAUERNZEITUNG published by the SED Central Committee [East Berlin Vol 20 No 21, 25 May 79 p 6] recently warned against the reckless use of pesticides. Other specialized agricultural periodicals in the GDR have recently been expanding the "new viewpoints" in "crop control in agriculture" compiled by the Institute for Crop Protection Research at Kleinmachnow with various contributions. Along with the interest in environmental protection, which is on the increase in the GDR as well, the cost of production and procurement of chemical products is apparently also a determining factor for the curtailment of the use of chemical substances in the agriculture of the GDR.

The GDR crop protection researchers have, after "comprehensive investigations," recognized "that not every attack (by pests) endangers yield and quality. If the leaf loss, blights and other damage can be held within limits, a full crop can be obtained. Like men and animals, our crops have their own forces of resistance. Pesticides should therefore be used only if the attack is so severe that the crop cannot compensate for the damage and a low yield threatens."

Two years ago, in June 1977, the PRESSE-INFORMATIONEN of the GDR Council of Ministers wrote: "The comprehensive use of chemicals due to the growing availability of chemical products is a leading factor for raising yields per hectare and reducing crop losses."

In August 1977 Prof Ernst Scheffel of the research section of the Piesteritz Nitrogen Plant demanded that chemical pesticides be used "with more forethought," since they caused considerable damage to the environment. He urged an "integrated plant protection," in which agrotechnical, chemical, and biological methods are combined. The growing use of highly effective chemical preparations in GDR agriculture prompted the Ministry for Agriculture, Forestry, and Foodstuffs Industry in August 1977 to introduce "comprehensive measures for the further training of all management cadres and employees in the field of crop protection." Special seminars and further education courses were set up, in which the latest knowledge on crop protection has been and is being taught. According to the concept of the long-term conceptions of the agriculture ministry only graduates of higher and professional schools are to be used in agricultural enterprises as "crop protection agronomists."

Symptoms of Poisoning

In September 1978 the East Berlin professional periodical DAS DEUTSCHE GESUNDHEITSWESSEN warned against minimizing the dangers of pesticides often used in excess and recklessly in GDR agriculture. The relatively small number of officially registered occupational illnesses caused by chemicals should not blind one to the real dangers, for "a large estimated figure must be taken into account." Complaints by agricultural and forestry workers of headaches, nausea, feelings of indisposition, weakness and vomiting while spreading certain pesticides are "still given too little attention." In these cases a "genuine poisoning" must be assumed. The magazine expressed the suspicion that a series of pesticides are far more poisonous than presently assumed, and that pertinent studies showed that stricter requirements ought to be set. Besides stricter labor protection regulations and especially stricter adherence to them, the health magazine urges a general prohibition of work on treated fields in the first few days after the application of pesticide preparations.

Combination of Methods for Crop Protection

These demands are being expanded this year to a striking extent in the agricultural press by instructions on agrotechnical and biological methods of crop protection. Thus, for example, Henri Degenkolb, section chief for crop protection in the Trebbin Agrochemical Center, reported: "Spraying is good, but it is no cure-all. We therefore also aim at ensuring high-yield crops through the prudent combination of mechanical and chemical measures."

Deeper plowing and the setting up of perches in the fields for birds which hurt mice were publicized in the agricultural press for combating the plague of field mice this spring, for example.

Control Standards

To avoid a hasty or excessive chemical treatment of plant pests, the Kleinmachnow Institute for Crop Protection has worked up parameters. According to them, for example, aphids on winter wheat, summer barley, and oats are not to be destroyed until 60 to 80 percent (from beginning to end of the flowering period) of the spicules or panicles are attacked. The observance of parameters, which have also been established for other cases of attack by pests, nevertheless requires continual surveillance of the crop. According to data of the NEUE DEUTSCHE BAUERNZEITUNG, it is thereby possible to apply pesticides more purposefully than before, and thus also save a considerable amount of it. In Neubrandenburg Bezirk, for example, 2 million marks less were spent than originally assumed on potatoes and rape alone through precise surveillance of the crop and concentrated application of pesticides.

Crop Rotation

A further possibility of reducing or excluding altogether pests and blights and thereby avoiding the use of pesticides, is the choice of the correct rotation of crops, which is repeatedly stressed in the agricultural press of the GDR. The Zossen Central Office for Varieties, an institute for grain breeding, has deplored the fact that only about one-third of the farms in the GDR have practiced sensible crop rotations. In many places the yields were therefore far less than the possibilities. The central office pointed out that the drops in yield were greater the more often the grain planting was repeated, and were occasionally around 25 percent. Inexpedient crop rotation increases pest attack, which in turn requires increased use of pesticides. In this way the resulting loss of yield can amount to another 20 percent. Another reason for the departure from total use of chemicals is the lixiviation of the fields caused by onesided chemical treatment over the years. The shortage of humus caused thereby was already described as "serious" in 1977. In recent years 125 special enterprises have been set up to reenrich the lixiviated soils with organic substances. This year they are to produce 2.2 million cubic meters of humus. This of course corresponds to only a one-third of the annual need for organic fertilizer, but represents a sevenfold increase over 1976. Harvest waste, forestry waste, and waste from grain, fruit, and vegetable processing, and from potato storage sheds serve as raw materials.

Cost Increase

A not inconsiderable reason for the departure from comprehensive use of chemicals in GDR agriculture is doubtless also the rising cost of production and procurement of the chemicals, the basis for which is primarily petroleum, which is available only in limited quantity. The production and importation of chemical products in the GDR steadily increased until 1977, as is pointed out in the fulfillment reports on the national economic plan. Up to 1977

the availability of fertilizers and pesticides are said to have also increased steadily. In 1978, for the first time, pesticide was no longer mentioned. It can be gathered from the statistical yearbooks of the GDR that in 1977—rising steadily from 1968—about 24,500 tons of pesticides were delivered to agriculture; with them 3.5 million hectares—about half of them planted to grain—were treated. No figures have yet been published for 1978.

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SHORTCOMINGS, LAXITY IN ECONOMIC MANAGEMENT CHARGED

Budapest NEPSZABADSAG in Hungarian 11 Jul 79 p 10

[Article by Dezso Suto, director, Internal Revenue Department, ministry of finance: "Stricter Management Discipline: Observations from Financial-Economic Inspections"]

[Text] In 1978, the national organization of the Internal Revenue Department of the Ministry of Finance conducted a full-scale financial-economic inspection at more than 3000 enterprises and cooperatives--more than one-half of the economic units. The inspections revealed positive manifestations in several areas of initial management efforts directed at improving quality and efficiency. From the critical analyses that were carried out, however, it also appears that a significant number of enterprises and cooperatives have not yet adequately adjusted to the stricter conditions imposed by the modified regulators. Improved efficiency is still only observable in a narrow sphere. To a great extent this may explain the fact that while production and sales have developed according to plan, the profits of enterprises and cooperatives, lagging behind possibilities and expectations, have scarcely increased by 1 percent in the past year.

Stocks on Hand and Exports

The moderated results and a slow-down in sales was basically caused by the decrease in subsidies, and also by the rapid increase in expenditures, exceeding production. The shortcomings of enterprise management are indicated by the unreasonable accumulation of stocks, the large wage increments that are independent of the results (exceeding also those of last year), the lack of suitable economy with materials, and further, by the extraordinarily rapid increase in so-called undistributed expenses connected with enterprise management.

Inspection observations show that a significant proportion of the large (9.8 percent) increase of stocks was connected with enterprise management and to smaller degree (approximately 16 percent) with price changes. The overwhelming part of the increases derived from the accumulation of materials and parts, and even within this there was a considerable rise in the

acquisition of capitalist imports. This is also attributable to the fact that certain enterprises strove to counterbalance the 1979 import restrictions by increasing their reserve stocks and by increasing tactical purchases. The large increase in commercial stocks can be classified as unfavorable primarily because of the composition of commodity supplies is not in accordance with demand, and thus does not serve the better distribution of goods.

The volume and composition of export sales have not developed in accordance with plan goals. Even the increase in non-ruble account revenue was far from the designated. All this indicates that although commodity supplies increased dynamically as a result of 45 billion forint credit limit of export-developing investments the composition of exportable products is still not satisfactory. According to the findings of the financial-economic inspections, the unsatisfactory profitability of exports in some places is attributable to several factors. From time to time export-directed developments have not been sufficiently thought through. Often only after exports have been transacted and after considerable losses, it belatedly becomes apparent that in comparison to the obtainable [market] price, we produced too expensively. At other times, sales receipts and the profitability of the exports decline because of poor quality products, delivery delays, and the violation of contractual conditions.

The outstanding task of last year's financial-economic inspection was to investigate the efficiency of the state financial subsidy system. We found that the range of subsidized enterprises and cooperatives, despite various restrictive measures, has extended even further. Very few enterprises have taken the steps to make the reduction or abolition of the subsidies possible. Individual initiative has been met with sporadically. The inspection suggested that subsidies to a number of economic units be reexamined and justified. There are still unnecessarily unprofitable enterprises and cooperatives that, through subsidies, will make profits exceeding the branch average.

The inspections have shown that some of the economic organs still do not weigh their own possibilities realistically in implementing and development and personal wage policies. They are living beyond their means. The majority of enterprises showing a deficit and lacking in a sharing fund, for example, have carried out larger than average wage and price increases. Thus the lack of funds has been decisively caused by excessive wage increments and by disproportionately high mid-year expenditures chargeable to the sharing fund.

A recurring shortcoming is the imprudent awarding of wage preferences. These kinds of authorizations of the supervisory organs often contain vague, unconditional, or formal conditions. In some cases, the late (subsequent) awarding of wage preferences makes effective utilization questionable from the start. There was an enterprise that received a 1 million forint

preference on 27 December. It then "distributed" this sum within 2 days, and thus it is not hard to imagine how and with what effectiveness it utilized or was able to utilize, this.

Our surveys, conducted on the basis of the 1978 balance-sheet reports, show that the majority of economic organizations (showing a deficit and lacking funds) falling into a difficult financial-economic situation can create a suitable balance situation on their own with the help of existing resources by utilizing the reserve fund and the safety reserve fund. When all is said and done, there are altogether 21 enterprises and 15 cooperatives, and 19 agricultural cooperatives in which the possibility of creating a financial balance for management must be further examined.

Forced Collection, Excess Billing

Examining the relations of the state and the enterprises, the inspections disclosed, inter alia, that in 1978 the economic organs only belatedly satisfied their budgetary payment obligations amounting to 23 billion forints. Because of this, they had to pay a 639 million forint late surcharge. (The amount of obligations that were unfilled by the deadline, or despite demands of the tax accounting offices, and that were recovered by forced collection, grew more than two-fold as compared to the preceding year.)

But irregularities of another character also crop up. At the Pecs Thermal Power Plant, for example, the state subsidy received provided ample coverage for the payment of the shift allowance (averaging 30 percent) that was introduced as of 1 July 1977; what is more, a 468,000 forint surplus appeared.

The enterprise applied this surplus to the basic wage, that is, it increased the basic wage of the workers by an average of 69 forints per person per month from the wage structure intended for the shift allowance.

In the relations of enterprises with each other, non-compliance with quantity, quality, and deadline specifications written in the contracts, late payment, and abuse of a monopoly situation are still common. There are examples of this in every branch, but it is also necessary to mention particularly the fact that, for example, construction enterprises often do not complete the so-called periodic billing according to the stipulations of the decree. They make up the kind of periods that are not technically definable, they make out a bill that is not identical with the technical content specified in the period.

Warnings, Without Response

The investigation of the accounting system and of documentational discipline showed that enterprise balance-sheets and reports of results in general faithfully reflect the management and asset situation, that there is a concrete economic basis for the reported results. At the same time, however,

the proportion of larger or smaller errors is significant, and because of this it is necessary subsequently to modify the balance-sheet and report of results approved by the director of the enterprise or by the membership meeting of the cooperative. In the area examined, there were only 37 economic units that have submitted their balance-sheet accounts correctly for several years now.

We cannot be satisfied with the improvement in the accounting system and documentational discipline. Sufficient attention at a significant number of industrial enterprises and cooperatives is not being turned to internal regulations, the internal information system, and the modernization of these. Today the danger threatens that the development of the internal information system is lagging more and more behind the rate of development of production and the technological level.

It follows from the foregoing that besides the financial-economic inspection organization, the enterprises, but especially the supervisory organs, must act with more consistency and determination against repeated shortcomings. How much there is to be done in this regard is also indicated by the fact that by the middle of June we had received no response to more than 300 of the warnings of this sort sent to supervisory organs in connection with last year's inspections, and even formal steps have not been taken to do away with errors and shortcomings.

In the wake of multi-pronged measures of the central directing organs, the uncovering of possibilities for the modernization of the product structure, and of the causes of unprofitable operations, is going on at many enterprises and cooperatives. The inspection observations, however, point to the fact that the measures planned by the enterprises are for the time being limited to a fairly narrow range, and there are few constructive proposals promising rapid improvement. A good many enterprises, even without sound reason, are willing to "undertake" the improvement of unsatisfactory profitability only in exchange for further investments and subsidies.

The experiences of the 1978 financial-economic inspections in their totality also show that in the management of the majority of enterprises and cooperatives there has not yet been displayed development to an extent that would have laid a suitable foundation for the complete accomplishment of this year's plan tasks, and the vigorous improvement of the balance and of efficiency. It is very reasonable, therefore, for them everywhere to thoroughly analyse the observations and also to strengthen internal inspection.

It is an important condition of the successful completion of the tasks facing us that in the whole area of financial-economic inspection we further improve the purposefulness of the inspections and collaborate even more closely with the collateral inspecting organs, the branch ministries, and

the megye party and council organs in all three parts of the inspections: preparation, the uncovering of the facts, and the achievement of the appointed goals. We want to develop further the openness of our inspections, striving to have the closing discussions become democratic forums assisting the work of the economic organs, and to have them utilize the most important observations in the widest possible sphere.

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CONSTRUCTION INDUSTRY'S 1979 INVESTMENT TASKS EXAMINED

Budapest MAGYAR EPITOIPAR in Hungarian No 4, Apr 79 pp 196-199

[Article by Dr Istvan Tiszai: "The 1979 Investment Tasks and Possibilities of the Construction Industry"]

[Text] Construction industry investments have increased dynamically during the entire Fifth Five-Year Plan period. The five-year investment goals of the economic plan were 20 billion forints, while expected fulfillment by the end of 1980 is 28 to 29 billion forints. Such plan overfulfillment is not the result of a spontaneous process but derives from the recognition that the targeted manpower increase for the planned production growth could not be provided, and therefore an upper-level resolution was passed to make up for the manpower shortage with additional investment. The state support provided for in the Fifth Five-Year Plan (2.1 billion forints) and the so-called "4-billion-forint program" made possible on one hand the appropriate development of the enterprises working on the large investments and on the other hand the planned branch concepts of enterprises participating in Budapest construction and national housing. These centrally supported and controlled programs basically influenced the investment activity in the construction industry between 1976-1980.

"The Four-Billion-Forint Program"

The ATB [State Planning Commission] resolution* passed in 1977 provided for a 4-billion-forint source over and above the plan (state support credit) for the development of the construction industry and the industrial background thereto with the intention of making up for a shortage of 24,000 workers through the purchase of construction machinery and accelerated construction industrialization. On the basis of the resolution, applications were issued setting forth the conditions for gaining the central monies (state support and credit). An important condition of the applications was that the enterprise had to put up at least 30 percent of the money for the development from its own financial sources, and in the state support contract it had to accept

*ATB resolution 5017/1977 (VI. 2).

sanction obligations to increase capacity during the Fifth Five-Year Plan period. In the case of nonfulfillment the state support and credit could be cancelled in part or in entirety and recalled.

In response to the application call which appeared on basis of ATB resolution 5017/1977, the building organizations of the branch submitted 143 applications, with an investment goal of 11.9 billion forints, of which state support amounted to 4.9 billion forints, investment credit to 4.5 billion forints, self-funding and other external sources (for example, council support) to 2.5 billion forints. The central source demands of the applications exceeded possibilities by more than twofold.

In judging the application, there was need for setting priorities and for strict selection in order to realize the branch development concepts. The basic decision criteria were:

--as great a ratio of the production surplus as possible should be realized under the Fifth Five-Year Plan, and to this end investment should be directed primarily toward mechanization;

--the relative manpower savings attained with the development should be as favorable as possible;

--capacity balance (particularly in the capital city) in the most stressful districts from the construction industry point of view should be improved;

--developments should meet the requirements of the credit policy guidelines.

The EATB (Construction Affairs State Support Committee) approved

--77 applications (of which the investment costs were reduced in the case of 29);

--approved 3 applications at the cost of other central sources (construction material industry, light structures).

The investment cost targets of the approved 77 applications came to 5.7 billion forints.

The more important summary data of the approved developments were:

--Composition according to sources

state support	29 percent
investment credit	47 percent
self-funding and other	24 percent

--Material-technical composition:

construction	19 percent
domestic machinery	23 percent
socialist machinery	28 percent
capitalist machinery	20 percent
other	10 percent

--Distribution of investments by organization-groupings:

state construction industry	74.1 percent
cooperative industry	5.2 percent
producer cooperative, construction industry enterprises	3.1 percent
construction industry branch	82.4 percent
industrial background of construction industry	17.6 percent

--Total 100.0 percent

The enterprises obligated themselves contractually to complete the approved investments by the end of 1980. As for investment fulfillment, 1979 represents the peak year.

As a result of the investments, the production capacity will grow 8.5 billion forints annually: of this, 45 percent will be in production by 1979 and 78 percent by 1980. These investments will result in a total of 12 billion forints in production increase during the Fifth Five-Year Plan period.

The production results from a significant part of the investments (1.1 billion forints) will appear over and above this because the effect of the machinery concentrated at the BGV (Construction Machinery Loan Enterprise) will be realized by the implementation industry.

The investments will realize

--in Budapest an additional construction industry capacity of 2.3 billion forints per year (including the necessary capacity for the realization of a 110,000 m²/yr basic area communal establishment);

--an additional capacity of about 1.1 billion forint/yr in enterprises working on large investments;

--an additional construction industry machine component manufacturing and machine repair capacity of 750 million forints/year (in comparison with the present 40 percent, in 1980 about 50 percent of the construction industry's machine stock will make central repair and reserve parts supply possible;

--in the cooperative construction industry a modern (principally a "no-fines" technology) apartment building capacity of 500 million forints per year.

It follows from the above that the actual investment figures which were realized in 1978 and the 1979 goals have basically influenced the decisions made in the framework of the "4-billion-forint" program.

Investments of the construction industry branch reached 6.5 billion forints in 1978. In comparison with the 1978 investment plan of the economic plan an additional investment of almost 1 billion forints was made possible largely by a faster rate of formation than estimated in self-development funds, but a role was also played in the overfulfillment by "other external"* sources which were more than expected.

A significant portion of the investments consisted of machine purchases. This is a favorable phenomenon because it represents a decline in the construction ratio, but it also has unfavorable effects because the quantity and ratio of machinery imported from nonruble trade increased with total machine imports.

The 1979 Annual Plan

The 1979 fixed assets development plan in the construction industry branch calls for an investment of 6.5-6.9 billion forints. Of this, the target for the implementation building industry is 6.2 billion forints, and the total investment for the planning enterprises, the research institutes and the investment enterprises is 0.3-0.6 billion forints. The 1980 annual investment volume, it is anticipated, will be around 5.5-6.0 billion forints.

For the 6.8 billion forints of enterprise investment in the 1979 plan, the economic plan prescribes state support of 1,050 million forints, 1,650 million forints in credits, 850 million forints in other external sources, and 3.3 billion forints in enterprise self-funding.

Eighty-five percent of the planned investments are determined, because they rest either on earlier EATB decisions for state support, credit agreements, or are the continuation of enterprise developments already underway. Many central site and machine investments will be completed this year which were decided on at the end of 1975 for the sake of an accelerated rate of development by enterprises working on large investments. The approximately 5 billion forints in investments made use of a significant portion of state support provided in the Fifth Five-Year Plan. As a result of their realization, those enterprises have been strengthened and stabilized whose task is for the most part to implement large state investments. The decisive phase for the realization of the "4-billion-forint program" is 1979.

*Among "other external" sources were the contributions of the councils to the development of the construction industry organs, financial sources transferred from the central funds of KISZOV [Association of Small Industrial Cooperatives] to the building cooperatives, etc.

Taking into account the limiting requirements of the new economic situation, the investment volume of the economic plan, including the state support and credit goals, provides the financial conditions for the continuation of the already started development programs, but it does not make possible the start of new investments with central sources (state support and credit). With the start of new enterprise investments, state support and credit is not available, and thus new developments can only be started if the enterprise provides the financial sources entirely from its own development fund. In practice, this can be put at 14-16 percent on the nondetermined portion of the annual investment volume.

A considerable portion of the investment activity by construction industry enterprises, in accordance with the branch development concept, is influenced by the branch ministry through the system of state supports or the credit system. This influence is felt to a lesser extent in investments realized directly from the enterprise's own fund. It is a general rule in all the branches of the economy that the basic documentation on decisions regarding enterprise investments exceeding a certain amount (25 million forints) must be sent for review by the supervisory organs and for coordination with branch development goals. Some of the enterprises either do not honor this obligation or else they "fragment" the investment and thus escape the requirement for branch coordination. Under the Fifth Five-Year Plan the construction industry organizations are carrying out about 12 billion forints' worth of such investments as the supervisory organs are aware of only after the fact, on the basis of statistics, but they are unable to catalyze the process itself from the branch aspect.

Since the branch management organs are increasingly responsible for the development of an individual branch--particularly because of the narrowed import opportunities and the limited investment volumes--in 1979 we have to supervise enterprise investment activity more strictly, and on the other hand we have to obstruct the breaking down of development complexes (for example, the division of home factory reconstructions into 3 to 4 phases), the purchase of machinery unnecessarily overdimensioned for the technologies, and the creation of superfluous capacities.

Machinery Investments, Machinery Imports

The economy is making important sacrifices in the import of machinery for the construction industry. Domestic manufacture of construction machinery covers only about 15 percent of such machine purchases, the rest comes from imports. Sixty percent of the imports are from socialist and 40 percent from capitalist trade. In 1978 the Hungarian construction industry bought its machinery for 25 million dollars, and in 1979 and 1980 a similar demand will exist which must be satisfied (at a cost of 50-55 million dollars for the 2 years).

Under the Fifth Five-Year Plan the construction industry branch will make a total machine investment of 19 to 20 billion forints, including 16.5 to 17 billion forints in the building and road-building category.

Obviously, such an extent of machine investment will put increased responsibility on the enterprises as well as on branch management and supervisory organs. The requirements are becoming more and more pointed:

--machinery management and purchases must be coordinated centrally in such a way that the purchases will occur in an organized way exploiting the technical and economic advantages of a unified acquisition concept, reducing the heterogeneity of the present machine pool;

--in the area of machinery supplies we are striving more and more to exploit the advantages latent in cooperation with socialist countries and in CEMA specialization;

--we must generalize the planned and preventive maintenance of machinery, and to this end we must assure the development of the machinery repair network, and a planned parts supply;

--the enterprises and machinery-loaning organs must do everything in their power to raise the level of machine utilization, and we must attain a point where the machinery, particularly high-performance machinery, will be continuously operated for a number of shifts.

In enterprise investment activity for 1979 and the following years, we must assure realization of these requirements through branch guidance means and the influences of the regulatory system. An important portion of the tasks will fall to the managing organs as, for example, the planned coordination of machinery import, the initiating of international cooperation projects or the promotion of enterprise initiatives, and the exploitation at bilateral discussions of growth opportunities for socialist machine imports. For longer range, a well-founded machine supply service requires an increase in the ratio of domestic machine manufacture; the concept for this must be worked out by the ministry with the organs of the metallurgical and machine industry and the foreign trade organs. The development of the domestic manufacture of construction machinery must be based on machine industry products made in large serials and with background traditions (truck frames, axle housing, motors, electrical equipment, etc.), and on the manufacture of modern and developed hydraulic elements, and in small serials it is necessary to make use of the developed opportunities of Epgep and Kozgep superstructure construction. The importance of the domestic manufacture of construction machinery is on one hand import replacement, but at the same time the [sentence garbled].

More Stringent Conditions

Investment activity since 1979 is being conducted at the enterprises under a more stringent condition system, stricter economic-financial rules, and the realization of incentive and sanction-type influences. The volume of investments will not increase in 1980 or the following years and there will be no more state support and credit available for the construction industry. In accordance therewith, the requirements for the acquisition of external financial sources are also higher. There are many enterprises which still do not

feel the measures which restrain the growth of the investment volume in the attitude of customers they face and in the shaping of their contracts. Therefore, they still have not taken all those measures which are necessary for effective use of their producer forces, make them adjust to volume and composition changes in their task, correct their own investment activities and supervise their development concepts. A significant portion of the developments started in 1976-1978 will be concluded in 1979-1980, many investments will "turn productive" at the same time the obligations which were undertaken (repayment of credit or indirect state support, provision of the undertaken production surplus and additional results) will fall due. With the changed and more stringent conditions and under the limits for development fund formation, the enterprises will be able to meet their obligations only through better work organization, increased efficiency, and more economic management.

For some of the enterprise developments already underway, the question of the necessity for supervision will be raised from the viewpoint whether, given the altered circumstances (the volume and composition of customer demands) and the stricter conditions (regulators), it will be worthwhile to follow through unchanged on an investment which appears economical in the initial year, or it will be necessary to make cost changes in midstream, abandoning certain acquisitions and seeking more modest solutions. This supervision must be carried out, together with the enterprise and the financial institutions, on investments conducted with state support, and where the necessity and possibility is present, the forces and financial resources must be regrouped. Care must be taken, however, to see that technical development programs which are important for a given area and indispensable over the long range should be left uninterrupted and that the steps on behalf of the economy should not result in a lowering of level. Nor should the weight of the obligations falling due be eased by renouncing a more developed technology but by organizational measures and efforts which increase savings and efficiency so as to assure additional revenues despite the difficult conditions.

Improvement of Investment Work

Investment activity must be improved in every area of the economy. The dual role of the construction industry enterprises is the following: as investors, they must make decisions that are better-founded, conceptual in the technical-economic sense and forward looking, and developments must be realized on the basis of well-established programs. As in the realization of other branch investments, the participant implementers must carry out their own tasks in an organized way, with the rational exploitation of machine capacities, and in a short elapsed time. The conditions of organized investment work are provided for by the prescriptions of joint OT [National Planning Office-FM (Ministry of Finance)] decree 1/1978 (X.5) (to be found in the MT [Council of Ministers] decree 34/1974 included in the unified organization and the related orders included in the TERVGAZDASAGI ERTESITO of 30 November 1978), which tie the starting of building investments to stringent conditions. This affords protection to the implementer against the demands of such investors who desire to start the implementation as soon as possible given the lack of preconditions,

technical plans and licenses. This investor "pressure" has led in many cases to the deconcentration of enterprise producer forces, to unorganized hasty work performance and in the final analysis has resulted in excessively long investment building time periods. Long elapsed time is harmful to the investor (there is a delay in putting the new capacity into production), it is not favorable to the implementer (his achievement is delayed in bringing a countervalue, and the local costs must be borne for a long time), and it is harmful to the economy (producer forces which are tied down unnecessarily and unproductively do not contribute to the production of national income).

Included among the conditions for starting investments is the preparation of a coordinated network plan together with those participating in the realization; this is the basic documentation for organizing the investment process. The Ministry of Construction and Urban Development works out the time values for preparing the network plan; the institutes--EGSZI [Institute of Construction Management and Organization]--and the branch management organs afford procedural help for the work of network planning.

Transition to the Sixth Five-Year Plan

The year 1979 is critical to the Fifth Five-Year Plan on one hand because a large part of the investments targeted at the beginning of the plan period must make their effect felt, and on the other hand because it provides the last opportunity for us to assure the transition to the Sixth Five-Year Plan with an appropriate rate of developments.

The great majority of the development goals of the Fifth Five-Year Plan has been realized, supported with the financial sources also of the "4-billion-forint-program." Of special importance among these are the developments related to enterprises working on large investments, large-scale machine investments, which raise the technical level at a rapid rate and replace manpower, as well as investments related to the execution of the light structural government program with the material bases that were essentially established for the extension of the light structural building systems. However, the realization of many goals has been delayed and their completion postponed to a later period. (For example, the development of the network of regional central sites, the program for developing the relay network for bulk cement, and so forth). We did not succeed in making essential progress in improving the working circumstances of technical planners, or in raising the state of the mechanization level.

The most important tasks for transiting to the Sixth Five-Year Plan period are the following:

a) Developments related to the construction of housing

Housing construction tasks can be carried out only with increased industrialization and the intensified development of prefabricated house factories, something which is justified particularly in the capital city also by attempts to

counter the manpower shortage. The problem of the intensification of the prefabricated house factory network can be solved only through modernization and expansion related to reconstructions necessary because of obsolete house factory equipment.

In Budapest in 1979-1980, the producer equipment in house factories number 1 and 4 need to be supplemented and the level raised, and with the help thereof the nominal production capacity can be achieved and the specific manpower demand reduced. Parallel with this we must prepare for and start in 1980 the reconstruction of house factories number 2 and 3 by using more efficient, manpower-saving equipment.

We must also gradually realize the development of low-efficiency panel factories (polygons) operating with obsolete equipment and requiring great specific live work. It would be justifiable to replace the Pecs, Szekszard and Kapsovar panel factories in the second half of the Sixth Five-Year Plan period with a house factory (at Pecs) assuring the use of lower specific live work (the working out of the development goals is underway).

House factory reconstruction projects must be carried out with the acquisition of socialist, primarily Soviet equipment. An important technical solution to the intensification and to the reduction of specific live work, however, is the use of modern continuous cluster shutter [csoportzsalus] equipment, which can be obtained at present only in capitalist trade, but which it will be advisable to provide in the future through cooperation projects.

It is also advisable to solve the problem presented by the obsolete technological equipment in house factory reconstruction (concrete plants, automatic equipment) with more modern solutions (for example, the use of bores instead of aging vats [erlelo kadak]. At the same time, we must render more efficient the system of concrete supply with the use of overhead conveyers or pipeline systems.

A significant part of the machine pool (trailers, cranes) for delivery, loading and fitting of prefabricated panels is obsolete; we must gradually replace these as well.

Public utilities and underground tasks under the Sixth Five-Year Plan will increase by leaps and bounds. The capacity demands will be for the most part in building sites for prefabricated houses, basic utilities, pipe systems, and sewage, as well as road and railroad building. The most urgent tasks in the field of underground construction where, in addition to exploiting the possibilities of developments realized thus far under the Fifth Five-Year Plan, we shall require further central sources in 1979-1980, primarily for the acquisition of complete utility and underground construction machine chains (geplancok).

The present low mechanization level of maintenance construction (below one-half of the per capita horsepower value in the construction industry average) must be developed to a level appropriate to requirements in regard to the

tasks of the next plan period. To this end it is necessary to work out new mechanized renovation technologies, increase machine acquisitions, rationalize material mobility, and increase machinery loans.

The financial sources are not yet available for the foregoing developments; additional sources cannot be provided at the economic level, therefore as a start--taking into account also the possibilities of interbranch regroupings --it will be necessary to create new sources by reviewing developments already decided on and undertaken in the construction industry branch and making modifications adjusted to the new situation.

b) Additional Development tasks

To develop a network of complex regional sites, important developments are to be realized in the Fifth Five-Year Plan period. The sites thus being developed create the conditions necessary for the industrialization of structural-construction jobs. With the realization of a national network of central sites, it would also be possible to speed up the industrialization of finishing work.

Material movement and loading work tie down an important part of live work in the construction industry. (At present in the state construction industry every fourth worker is occupied with material movement.) Replacement of the workers engaged in such work will require appropriate mechanization.

We have begun to develop the supplying of bulk cement and a regional system of storage and distribution. We have called for a basic change during the Sixth Five-Year Plan period in the mechanized development of the process for moving concrete so as to fit into a complex technological process.

An improvement in the working conditions at planning enterprises and research institutes, the development of modern workshops and their provision with appropriate means within the limits of investment possibilities have repeatedly been forced into the background because of the urgency of other important goals.

In the present situation, this endangers the efficiency and quality of the work.

In the interest of carrying out the tasks of the Sixth Five-Year Plan, we must start in 1979-1980 the development of institutes which are struggling with the most oppressive problems.

The possibilities available under the Fifth Five-Year Plan for the mechanization of technological fitting were not adequate in the organizations belonging to the construction industry branch.

It is not possible realistically to target the realization of developments under group b)--within the limits of 1979-1980 investment possibilities--and therefore the necessary bases for continuing their preparation must be provided in the framework of the Sixth Five-Year Plan work.

The development and significant quantitative growth being realized by the construction industry under the Fifth Five-Year Plan will be expressed by the rise in the level of mechanization. It will be the task of the coming years to use the material bases of the branch, in the spirit of the Central Committee resolution of 12 October 1978, with better work organization and greater efficiency. To this end, the enterprises, institutes, and managing organs need to make a common and coordinated endeavor.

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FOREIGN TRADE TURNOVER VIA SEA ROUTE IN 1978

Gdansk TECHNIKA I GOSPODARKA MORSKA in Polish No 6, Jun 79 pp 369-374

[Article by Halina Dabrowska and Barbara Luczyn: "Turnover of Polish Foreign Trade by Sea in 1978"]

[Text] The level and scope of the tasks set for foreign trade in 1978 required the application of a trade policy which would insure a substantial increase in the size and effectiveness of exports and the optimalization of imports. The National Socio-Economic Plan for 1978 assumed a decline in Poland's level of debt and at the same time the assurance that the national economy would be supplied with the indispensable raw materials and commodities essential to its proper functioning.

The foreign trade ministry is carrying out its tasks in cooperation with the industrial ministries, the producers of exports and the import customers. In carrying out the export-import tasks in 1978, we placed great emphasis on strict supervision of foreign-exchange expenditures for imports and on balancing them with income gained from exports. The result of this was the attainment of the planned improvement in the balance of trade exchange.

The value of trade turnover in 1978 was 5.3 percent higher than during the previous year, and exports showed far greater dynamics than imports. Looking at payment area II we see that exports increased by 5.2 percent but imports declined to 97.4 percent of the previous year's level.

The size of foreign trade turnover determines the level of transport tasks. In 1978 132 million tons of freight was carried by all branches of transportation. This is 2.5 percent higher than the previous year, and of this, transport by sea rose by 7.5 percent.

In 1978 overall export transportation reached a level which was a million tons higher than the previous year. This included a sizeable rise in coal and coke exports, which reached 4 million tons, and a simultaneous decline in the transportation of other commodities. Among imports, grain was the major item to show a substantial increase.

Transport by sea in 1978 reached 59.8 million tons, which is 45.3 percent of the total foreign trade commodities. As a result, the share of foreign trade served by sea transport increased by 2.1 points.

Poland's trade policy is geared to the continual expansion of turnover with developing countries, which are an absorbent market of sale and at the same time have the raw materials which Poland is very interested in importing. Economic relations are developed through various forms of cooperation: the formation of mixed-capital companies, cooperation agreements, the sales of services in the realm of industrial construction, and so on, and this development is beneficial to both sides and fosters the development of trade exchange.

Although Poland's major partners are countries in the European and Baltic area -- transport to and from this region accounts for over half of all the sea transport -- during the past few years trade contacts with the developing countries have increased considerably. Turnovers in the African, Asian, and North and South American regions have risen by more than 60 percent during the past 5 years.

Total sea transport in 1978 increased by 7.5 percent in relation to the year before, including an increase of 1.7 percent for exports and 17.4 percent for imports.

There has been considerable growth in exports by sea during the past few years. They rose by about 4 million tons in the past 5 years. The rise in exports in 1978 was not very great compared to the year before, about 600,000 tons. Contributing to this phenomenon were the increased shipments of coal, milled goods, cement, and some new commodities mainly in the general-cargo line.

In 1978 there was a considerable increase in coal deliveries to Italy, Denmark, Finland, and the United States (and some decline in deliveries to other countries). There are great possibilities for selling coal, and the size of coal exports depends only on production capacity. Among exports by sea it is an important item, representing about 70 percent of all such exports. Despite the continual rise in coal extraction, the increase in the domestic consumption of this raw material does not permit us to take advantage of all the offers we receive from foreign customers.

Exports of metallurgical goods also increased substantially in 1978 (by 45 percent over 1977) as the consequence of the expansion and modernization of the metallurgical industry. The result of this is also visible on the import side, because it made it possible to give up importing many different sorts of metallurgical items from the countries in area II.

Although cement exports were higher than the previous year's fulfillment, the assumptions of the 1978 plan were not fully realized. The many difficulties related to exporting this commodity, problems in the realm of insuring proper packaging and setting up regular deliveries from the factories

to the ports, made it impossible to fully utilize the possibilities for selling this commodity. Deliveries of clinker supplemented exports.

Although an increase in exports was achieved, there was a simultaneous decline in the export of commodities such as chemical fertilizers, whose shipments were limited owing to the rise in the demands of agriculture, and gypsum rock and limestone, which is being exported in small quantities, owing to the fact that it is a relatively low-value commodity and is difficult to ship to the ports.

Imports. The basic rise in imports by sea is related mainly to the rise in grain deliveries, which increased by 2.1 million tons, ore deliveries, which increased by 500,000 tons, and petroleum product deliveries, which increased by 800,000 tons.

The size of grain and feed imports is determined each year as the result of balancing the livestock economy with the level of our own grain production, which during the past few years, which have been poor ones for agriculture, has required a large supplement of imports. The size of sea imports are the resultant of this balance and of the possibility of making purchases in countries from which overland deliveries may be made. The distribution of the transportation of this commodity by land and sea is very important, because the overall rise in grain imports during the past few years has been so great that both the ports and the railroad, which must carry the grain from the ports, have tremendous difficulties in handling this growing bulk of the commodity, owing to inadequate handling and shipping capacity. The organization of the transport of grain from the ports in shuttles, which are have recently been used more and more, is only a partial solution to a difficult situation, because customers in the interior of the country, especially feed customers, are not prepared for service requiring concentrated unloading centers. The major grain deliveries come from the United States and Canada. These two countries supply about 70 percent of all the grain which comes by sea.

Imports of ores and concentrates were very high, despite the fact that part of the deliveries were made ahead of time in 1977. These imports were nonetheless about 10 percent higher than in the previous year. The major increases in deliveries came from Sweden, Norway, and Brazil, the major suppliers of this raw material among the countries in area II.

The transport of foreign trade commodities is being handled more and more by the Polish fleet. In 1978, 57.1 percent of all cargo, including 44.4 percent of the exports and 75.8 percent of the imports, was carried by Polish ships. Altogether these shipments were 15 percent higher than in the previous year, but the rise applied mainly to grain, fuel, and ore shipments. The greater use of the Polish fleet was assisted by the fact that in entering into contracts, the foreign trade enterprises are maintaining control of transportation. In 1978, the share of their own means used in turnover by sea reached a level of 50.8 percent, which was 3.6 points higher than during the previous year.

Table 1. Total Transport of Polish Foreign Trade Cargoes and Transport by Sea in 1978

Cargo	Total		Imports		Exports				
	Total tons	including: by sea ton	Total tons	including: by sea ton	Total tons	including: by sea ton			
Total ¹	131,967,445	59,768,400	45.3	66,599,753	24,269,780	36.4	65,367,692	35,498,620	54.3
Coal and coke ¹	46,409,170	25,614,278	55.2	1,069,867	--	--	45,339,303	25,614,278	56.5
Ores and concentrates	18,277,397	6,004,852	32.9	18,277,397	6,004,852	32.9	--	--	--
Liquid fuels ¹	20,506,865	5,136,522	25.0	18,881,788	3,804,845	20.2	1,625,077	1,331,677	81.9
Sulfur	4,259,622	2,627,449	61.7	--	--	--	4,259,622	2,627,449	61.7
Gypsum and limestone rock	25,301	25,301	100.0	--	--	--	25,301	25,301	100.0
Fertilizer raw materials and chemical fertilizers	6,479,229	3,685,209	56.9	5,998,751	3,271,300	54.5	480,478	413,909	86.1
Salt	174,577	51,862	29.7	--	--	--	174,577	51,862	29.7
Grain	8,730,181	7,846,651	89.9	8,701,798	7,832,054	90.0	28,383	16,597	51.4
Timber	1,593,124	742,245	46.6	338,811	76,699	22.6	1,254,313	665,546	53.1
Cement	1,578,258	1,542,174	99.0	--	--	--	1,578,258	1,562,174	99.0
Sugar	324,379	323,830	99.8	56,396	56,396	100.0	268,183	267,434	99.7
Cellulose	246,393	151,911	61.7	246,393	151,911	61.7	--	--	--
Cotton	148,805	31,738	21.3	148,805	31,738	21.3	--	--	--
Rollled products	4,327,160	1,536,963	33.9	2,193,673	361,688	16.5	2,333,487	1,175,275	50.4
Citrus fruits	228,685	142,096	62.1	228,685	142,096	62.1	--	--	--
Other commodities ²	18,458,099	4,285,319	23.2	10,457,389	2,536,201	24.3	8,000,710	1,749,118	21.9

1. Excluding ships' fuel

2. Mainly of a general-cargo nature

Table 2. Foreign Trade Turnover of Cargoes Via Sea Route by Country in 1978 (in tons)

Country	Turnover		Imports		Exports	
	Total	including: general cargo	Total	including: general cargo	Total	including: general cargo
1	2	3	4	5	6	7
Total	59,768,400	4,285,319	24,269,780	2,536,201	35,498,620	1,749,118
EUROPE	36,790,615	2,097,927	8,299,407	1,350,649	28,491,208	747,278
Albania	127,945	56,807	87,339	50,751	40,606	6,056
Bulgaria	3,716	657	—	—	3,716	657
Belgium	956,017	120,839	232,437	96,823	723,580	24,016
Denmark	3,851,276	49,142	325,116	33,432	3,526,160	15,710
Finland	4,222,026	80,496	95,173	41,608	4,126,853	38,888
France	3,868,307	61,483	556,349	49,395	3,311,958	12,088
Greece	592,090	16,313	29,607	14,409	562,483	1,904
Gibraltar	88	88	—	—	88	88
Spain	1,882,444	102,911	127,718	91,888	1,754,726	11,023
Netherlands	1,706,379	268,681	417,705	195,162	1,288,674	73,519
Ireland	652,151	17,372	7,775	7,775	644,376	9,597
Iceland	39,169	28,882	28,244	27,243	10,925	1,639
Yugoslavia	102,301	102,301	101,136	101,136	1,165	1,165
Malta	2,750	2,750	8	8	2,742	2,742
Norway	1,468,995	123,010	1,161,844	102,659	307,151	20,351
GDR	7,090	790	11	11	7,079	779
Portugal	142,727	13,770	11,971	3,965	130,756	9,805
FRG	2,339,330	136,057	142,719	31,968	2,256,611	104,089
Romania	10,207	207	—	—	10,207	207
Sweden	4,332,392	382,671	3,188,965	184,851	1,143,427	197,820
Italy	3,584,748	16,025	37,210	10,943	3,547,538	5,082
USSR	2,210,252	65,497	921,327	65,350	1,288,925	147
Great Britain	2,220,427	405,547	817,558	232,134	1,402,869	173,413
Faeroe Islands	1,107	1,107	873	873	234	234
West European Ports	406,691	44,524	8,322	8,265	398,359	36,259
ASIA	6,299,365	661,578	4,396,290	443,637	1,903,075	217,941
Saudi Arabia	140,208	18,057	—	—	140,208	18,057
Bahrain	937	878	—	—	937	878
Bangladesh	14,584	11,596	3,951	3,951	10,633	7,645
Burma	4	4	—	—	4	4
People's Republic of China	162,826	102,348	69,411	69,411	93,415	32,937
Cyprus	23,717	5,107	13,177	2,607	10,540	2,500
Philippines	48,052	1,303	3,021	921	45,031	382
Hong Kong	8,786	7,054	414	414	8,372	6,640
Indonesia	40,445	16,349	177	177	40,268	16,172
India	632,552	59,332	212,971	39,581	419,581	19,751
Iraq	1,279,222	5,241	1,273,609	1	5,613	5,240
Iran	488,024	3,487	409,531	—	78,493	3,487
Japan	620,592	73,083	96,776	65,789	523,816	7,294
Yemen	22,572	4,832	—	—	22,572	4,832
Jordan	284,491	7,637	212,127	—	72,364	7,637
People's Democratic Republic of Korea	266,605	138,012	137,997	137,997	128,608	15
Kuwait	419,208	3,482	387,998	2	31,210	3,480
Qatar	54	54	—	—	54	54
Lebanon	30,633	14,940	10	10	30,623	14,930
Malaysia	54,170	34,784	32,503	32,503	21,667	2,281
Oman	84	84	—	—	84	84
Pakistan	66,834	15,701	1,833	1,426	65,021	14,275
Singapore	37,222	37,119	20,422	20,422	16,800	16,697
Socialist Republic of Vietnam	22,789	16,563	7,883	7,883	14,906	8,680
Sri Lanka	80,865	5,164	42,041	216	38,824	4,948
Syria	32,838	21,911	11,753	11,753	21,085	10,158
Thailand	197,005	41,147	168,698	35,261	28,307	5,886
Turkey	15,574	12,635	12,356	12,356	3,218	279
United Arab Emirates	286,051	2,682	253,318	52	30,733	2,630
Persian Gulf Ports	1,018,843	—	1,018,843	—	—	—
Other countries	3,558	992	3,470	904	88	88

[Table continued on following page]

[Table 2 continued]

Country	Turnover		Imports		Exports	
	Total	including: general cargo	Total	including: general cargo	Total	including: general cargo
1	2	3	4	5	6	7
AFRICA	4,353,887	751,964	2,144,672	252,365	2,209,215	499,599
Algeria	245,836	21,114	83,928	131	161,908	20,983
Angola	10,426	10,426	1	1	10,425	10,425
Egypt	151,273	23,855	7,704	930	143,569	22,925
Ethiopia	3,995	495	206	206	3,789	289
Gabon	148,811	—	148,811	—	—	—
Gambia	1,211	1,211	—	—	1,211	1,211
Ghana	108,946	108,888	5,629	5,629	103,317	103,259
Guinea	134,801	123,801	123,790	123,790	11,011	11
Kenya	18,968	15,555	9,444	9,444	9,524	6,111
Congo	4,332	17	4,313	—	17	17
Cameroon	5,849	1,649	2,994	—	2,855	1,649
Libya	125,196	31,147	20	20	125,176	31,127
Liberia	4,107	3,747	—	—	4,107	3,747
Madagascar	75	75	28	28	47	47
Morocco	1,400,186	70,636	1,070,759	47,006	329,427	23,630
Mauritania	2,186	2,186	2,179	2,179	7	7
Mauritius	42	42	—	—	42	42
Mozambique	7,737	7,737	7,698	7,698	39	39
Nigeria	803,479	68,852	4,577	4,577	798,902	64,275
Republic of Zaïre	76	76	—	—	76	76
Republic of Benin	66,876	46,276	—	—	66,876	46,276
Republic of Chad	459	459	—	—	459	459
Republic of Djibouti	67	67	—	—	67	67
Senegal	23,189	1,261	19,525	1,023	3,664	238
Sierra Leone	2,767	2,615	—	—	2,767	2,615
Somalia	7	7	—	—	7	7
Sudan	9,283	4,722	6,071	2,160	3,212	2,562
Tanzania	2,706	2,706	1,272	1,272	1,434	1,434
Tunisia	450,117	20,903	254,411	18,675	195,706	2,228
Togo	349,356	4,198	345,658	300	3,898	3,898
Ivory Coast	130,702	36,615	26,587	8,231	104,115	28,384
Canary Islands	121,557	121,557	18	18	121,539	121,539
Cape Verde Islands	—	—	—	—	—	—
Other countries	19,069	19,069	19,047	19,047	22	22
NORTH AMERICA	7,674,954	296,500	6,518,011	90,012	1,156,943	206,488
Canada	1,744,618	59,022	1,690,879	16,677	53,739	42,345
United States	5,930,336	237,478	4,827,132	73,335	1,103,204	164,143
CENTRAL AMERICA	291,122	63,680	117,031	45,308	174,091	18,372
Netherlands Antilles	16	16	—	—	16	16
Barbados	35	35	—	—	35	35
Dominican Republic	16	16	—	—	16	16
Guatemala	278	278	231	231	47	47
Guadeloupe	1	1	—	—	1	1
Haiti	302	302	—	—	302	302
Honduras	26	26	—	—	26	26
Jamaica	814	814	714	714	100	100
Costa Rica	1,529	1,529	1,051	1,051	478	478
Cuba	210,551	15,933	72,783	1,060	137,768	14,873
Mexico	41,026	39,039	38,209	38,209	2,817	830
Nicaragua	26	26	—	—	26	26
Panama	996	996	1	1	995	995
Puerto Rico	490	490	2	2	488	488
Salvador	18	18	—	—	18	18
Leeward Islands	75	75	—	—	75	75
Bahama Islands	5	5	—	—	5	5
Bermuda	34,902	4,065	4,040	4,040	30,862	25
Other countries	16	16	—	—	16	16

[Table 2 continued on following page]

[Table 2 continued]

Country	Turnover		Imports		Exports	
	Total	including: general cargo	Total	including: general cargo	Total	including: general cargo
1	2	3	4	5	6	7
SOUTH AMERICA	4,232,994	314,019	2,676,197	261,870	1,556,797	52,149
Argentina	447,121	15,922	171,174	7,636	273,947	8,286
Brazil	3,494,540	159,329	2,260,190	148,051	1,234,350	11,278
Chile	16,964	16,964	16,938	16,938	26	26
Ecuador	25,476	11,789	24,042	10,883	1,434	904
Dutch Guiana	108	108	—	—	108	108
British Guiana	4	4	—	—	4	4
Colombia	43,992	15,400	35,242	7,592	8,750	7,808
Paraguay	55	55	—	—	55	55
Peru	72,793	72,722	70,831	70,760	1,962	1,962
Trinidad	51	51	—	—	51	51
Uruguay	29,743	10,435	6,866	1	22,877	10,434
Venezuela	102,147	11,240	90,914	7	11,233	11,233
OCEANIA	125,463	99,651	118,172	92,360	7,291	7,291
Australia	118,591	92,779	111,807	85,995	6,784	6,784
Fiji	11	11	—	—	11	11
New Guinea	19	19	—	—	19	19
New Hebrides	9	9	1	1	8	8
New Zealand	6,833	6,833	6,364	6,264	449	449

Table 3. Transport of Foreign Trade Cargoes by Area in 1978 (in tons)

Area	Total	Imports	Exports	Percentages		
				1977	1978	Indices: 1978/1977
Total	59,768,400	24,269,780	35,498,620	100.0	100.0	107.5
Baltic	13,787,695	3,695,251	10,092,444	23.2	23.1	106.7
Western Europe	17,530,252	3,546,947	13,983,305	28.8	29.3	109.5
Mediterranean Sea	4,752,247	481,782	4,270,465	7.3	8.0	116.8
Black Sea	323,516	309,593	13,923	0.6	0.5	101.2
Barents Sea	492,316	492,316	—	1.1	0.8	78.1
North Africa	2,372,608	1,416,822	955,786	5.0	4.0	85.5
West Africa	1,938,398	703,130	1,235,268	3.2	3.2	107.5
East Africa	42,881	24,720	18,161	0.1	0.1	89.4
Asia	6,203,954	4,169,808	2,034,146	10.6	10.4	105.5
North America	7,674,954	6,518,011	1,156,943	9.7	12.8	142.6
Central America	291,122	117,031	174,091	0.5	0.5	106.3
South America	4,232,994	2,676,197	1,556,797	9.6	7.1	79.9
Australia and Oceania	125,463	118,172	7,291	0.3	0.2	66.7

Table 4. Export of Major Foreign Trade Cargoes by Sea in 1977 and 1978 (in tons)

Cargoes and country	1977	1978	Cargoes and country	1977	1978
Coal and coke			MEDITERRANEAN SEA		
TOTAL	25,296,756	25,614,278	Albania	108,742	198,435
BALTIC	8,046,090	8,751,151	Cyprus	24,417	25,581
Denmark	2,595,068	3,169,008	Egypt	1,499	3,129
Finland	3,893,029	4,047,549	Greece	691	3,177
Sweden	281,644	245,816	Libya	65,411	140,155
USSR	1,276,349	1,288,778	Morocco	6,301	3,042
WESTERN EUROPE	11,068,377	10,661,882	Syria	—	998
Belgium	594,895	504,944	Tunisia	388	—
France	5,044,934	4,757,160	Turkey	—	295
Spain	1,963,296	1,716,104	Italy	10,035	14,721
Netherlands	766,689	635,041	AFRICA	—	7,337
Ireland	639,248	614,949	Ethiopia	4,261	13,397
Norway	176,560	207,159	Cameroon	—	3,500
Portugal	118,630	111,734	Kenya	—	200
FRC	1,565,500	1,677,071	Nigeria	351	3,413
Great Britain	198,625	437,720	Senegal	2,148	4,136
MEDITERRANEAN SEA	3,169,336	3,517,786	Sudan	1,485	1,298
Albania	10,698	8,969	Ivory Coast	—	650
Egypt	57,985	—	ASIA	277	200
Greece	77,494	116,454	China	65,751	158,678
Morocco	8,555	1,500	Bangladesh	54,605	56,456
Tunisia	—	6,541	Philippines	—	2,988
Italy	3,014,604	3,384,322	Hong Kong	—	44,649
NORTH AMERICA	444,301	652,657	India	—	1,732
Canada	52,318	—	Indonesia	2,673	2,803
United States	391,983	652,657	Iraq	—	2,409
SOUTH AMERICA	1,706,940	1,409,927	Jordan	912	373
Argentina	228,990	229,937	Japan	208	9,325
Brazil	1,421,000	1,177,990	Malaysia	—	900
Uruguay	12,833	2,000	Pakistan	—	19,386
Venezuela	44,117	—	Singapore	1,349	8,212
ASIA	861,712	620,875	Socialist Republic of Vietnam	—	183
Japan	764,933	515,622	of Vietnam	2,411	4,206
People's Democratic Republic of Korea	96,779	89,470	Sri Lanka	1,997	2,939
Pakistan	—	15,833	Thailand	1,396	2,197
Roller goods			NORTH AMERICA	138,075	297,798
TOTAL	809,944	1,175,275	United States	116,316	286,404
BALTIC	74,849	56,099	Canada	21,759	11,394
Denmark	30,636	15,620	CENTRAL AMERICA	33,776	14,021
Finland	9,376	10,240	Cuba	14,684	12,034
Sweden	34,837	30,239	Mexico	19,092	1,987
WESTERN EUROPE	208,501	412,628	SOUTH AMERICA	175,989	24,219
Belgium	69,621	128,949	Argentina	83,922	18,324
France	1,456	9,227	Brazil	72,827	—
Netherlands	2,393	3,226	Ecuador	400	530
Spain	978	19,099	Colombia	464	942
Ireland	5,534	5,430	Uruguay	3,606	4,423
Iceland	498	1,182	Venezuela	14,770	—
Norway	15,201	35,487			
Portugal	—	2,093			
FRC	27,068	118,232			
Great Britain	85,752	59,705			
Western European Ports	—	29,998			

[Table 4 continued on following page]

[Table 4 continued]

Cargoes and country	1977	1978
Gypsum and limestone		
TOTAL	66,784	25,301
BALTIC	34,526	7,037
Denmark	27,765	7,037
Finland	2,069	—
Sweden	4,692	—
WESTERN EUROPE	32,258	18,264
Iceland	10,134	—
Ireland	1,310	—
Norway	12,573	—
FRG	8,241	18,264
Salt		
TOTAL	70,678	51,862
BALTIC	48,615	23,023
Denmark	7,270	—
Finland	31,587	22,708
Sweden	9,758	315
WESTERN EUROPE	3,781	—
France	901	—
Norway	530	—
FRG	2,350	—
AFRICA	18,282	28,839
Republic of Benin	141	—
Liberia	1,680	—
Nigeria	16,005	28,667
Sierra Leone	456	152
Sugar		
TOTAL	271,478	267,434
BALTIC	10,512	—
Sweden	5,249	—
USSR	5,263	—
WESTERN EUROPE	5,583	5,580
Belgium	1,018	26
Iceland	—	43
Norway	4,565	4,347
FRG	—	1,164
AFRICA	1,584	3,266
Gambia	53	—
Ghana	—	58
Liberia	67	360
Nigeria	404	202
Senegal	—	2,128
Sierra Leone	51	—
Somalia	1,009	—
Ivory Coast	—	518

Cargoes and country	1977	1978
ASIA	46,890	25,333
Saudi Arabia	1,002	11,677
Bahrain	57	59
Iran	10,584	—
Indonesia	11,875	21,687
Yemen	10,626	—
Kuwait	484	1,174
Sri Lanka	11,643	—
United Arab Emirates	619	736
MEDITERRANEAN SEA	206,909	223,255
Algeria	60,090	72,316
Egypt	—	11,121
Libya	95,783	90,678
Lebanon	—	15,493
Morocco	3,060	—
Syria	35,350	22,821
Tunisia	10,626	10,626
	Comment	
TOTAL	1,384,631	1,542,174
WESTERN EUROPE	34,088	53,863
Belgium	22,000	—
Spain	—	8,300
Ireland	—	10,784
Great Britain	98	131
West European Ports	12,000	34,448
MEDITERRANEAN SEA	199,711	57,678
Albania	301	—
Algeria	58,581	—
Egypt	38,875	33,828
Morocco	101,934	23,850
AFRICA	849,516	808,213
Republic of Benin	3,800	20,600
Guinea	—	11,000
Congo	155	—
Nigeria	834,311	701,602
Senegal	11,250	—
Ivory Coast	—	75,013
ASIA	301,306	642,418
Saudi Arabia	47,792	110,474
India	1,249	120,773
Iran	9,091	75,006
Yemen	—	17,740
Jordan	12,138	17,500
Kuwait	—	26,556
Persian Gulf	219,516	247,002
United Arab Emirates	12,500	37,367

[Table 4 continued on following page]

[Table 4 continued]

Cargoes and country	1977	1978
Timber		
TOTAL	586,362	665,546
BALTIC	193,676	235,551
Denmark	—	137
Finland	28,598	—
Sweden	165,078	235,414
WESTERN EUROPE	282,860	349,529
Belgium	10,884	12,763
France	72,645	69,825
Spain	4,362	—
Netherlands	20,360	18,016
Iceland	9,610	8,061
Norway	18,122	1,340
FRG	390	3,929
Great Britain	148,087	235,595
MEDITERRANEAN SEA	109,826	60,466
Algeria	95,846	55,822
Cyprus	—	1,144
Libya	—	329
Morocco	13,980	11,998
Tunisia	—	11,173
Grain		
TOTAL	29,585	14,397
BALTIC (Denmark)	920	—
WESTERN EUROPE	24,175	14,597
Belgium	4,725	—
Netherlands	—	—
France	1,370	—
Norway	1,370	—
FRG	14,579	—
Great Britain	1,276	3,039
MEDITERRANEAN SEA (Egypt)	—	10,758
ASIA (United Arab Emirates)	4,490	—
Liquid fuels		
TOTAL	1,531,896	1,331,677
BALTIC	875,766	659,975
Denmark	147,388	292,683
GR	—	6,300
Sweden	728,378	360,992
WESTERN EUROPE	525,836	635,071
Belgium	27,179	52,882
Netherlands	87,226	240,295
Norway	—	36,662
FRG	313,524	232,631
Great Britain	13,556	21,949
Ports of Western Europe	82,371	50,651

Cargoes and country	1977	1978
MEDITERRANEAN SEA	10,271	5,794
Morocco	—	5,794
Italy	10,271	—
NORTH AMERICAN (United States)	81,124	—
CENTRAL AMERICA (Bermuda)	38,879	30,837
Fertilizers		
TOTAL	823,841	413,909
BALTIC	74,348	24,905
Denmark	9,520	19,965
Finland	3,222	985
Sweden	61,606	3,955
WESTERN EUROPE	130,477	63,775
Belgium	646	—
France	110,079	28,840
Netherlands	—	126
Ireland	1,055	3,616
FRG	—	7,158
Great Britain	18,677	26,035
MEDITERRANEAN SEA	164,954	135,634
Algeria	42,247	—
Cyprus	—	3,767
Egypt	60,307	61,760
Greece	—	21,818
Morocco	15,791	13,704
Syria	10,944	11,055
Tunisia	35,645	25,330
AFRICA	15,114	1,006
Cameroon	—	1,006
Nigeria	15,114	—
ASIA	403,870	184,577
China	156,541	4,022
India	227,507	143,104
Iran	10,749	—
Pakistan	—	62,701
Thailand	4,022	8,730
Vietnam	3,051	2,020
NORTH AMERICA	9,794	—
SOUTH AMERICA	23,573	2,012
Argentina	13,327	—
Brazil	300	—
Ecuador	5,001	—
Uruguay	4,945	2,012
AUSTRALIA AND OCEANIA (New Zealand)	1,711	—

[Table 4 continued]

Cargoes and country	1977	1978
Sulfur		
TOTAL	2,644,849	2,627,449
BALTIC	56,606	81,339
Denmark	—	6,000
Finland	10,300	6,483
Sweden	46,306	68,876
WESTERN EUROPE	1,198,602	1,300,733
Belgium	—	—
France	408,119	434,818
Spain	14,800	—
Netherlands	238,712	317,651
Norway	9,583	1,805
Portugal	—	7,124
FNC	104,947	94,073
Great Britain	422,731	445,282
MEDITERRANEAN SEA	939,532	842,702
Algeria	73,813	12,787
Egypt	11,242	—
Greece	246,764	282,132
Morocco	330,073	249,953
Tunisia	126,405	139,313
Turkey	4,700	7,700
Italy	146,535	150,797
BLACK SEA	24,985	13,059
Bulgaria	24,985	3,059
Romania	—	10,000
CENTRAL AMERICA		
(Cuba)	129,495	110,861
SOUTH AMERICA	113,269	68,490
Argentina	39,884	19,400
Brazil	72,130	45,082
Uruguay	1,255	4,008
AFRICA	33,856	—
Senegal	3,969	—
Zaire	27,887	—
ASIA	187,414	210,225
India	119,073	133,150
Jordan	35,644	37,902
People's Democratic Republic of Korea	12,677	39,173

Table 5. Imports of Major Foreign Trade Cargoes by Sea in 1977 and 1978 (in tons)

Commodity and country	1977	1978	Commodity and country	1977	1978
Ore and concentrates					
TOTAL	5,445,935	6,004,852	MEDITERRANEAN SEA	1,356,745	1,358,029
BALTIC (Sweden)	2,299,033	2,765,839	Algeria	98,482	76,743
WESTERN EUROPE	742,789	1,047,777	Morocco	881,567	1,003,705
Netherlands	4,192	1,081	Syria	82,446	41,825
Norway	732,978	1,038,633	Tunisia	294,250	235,736
Portugal	2,030	8,006			
FRG	504	—	NORTH AMERICA		
Great Britain	225	—	(United States)	828,210	905,525
Western European Ports	2,860	57	AFRICA (Togo)	491,625	345,358
MEDITERRANEAN SEA	62,598	57,273	BARENTS SEA (USSR)	481,585	442,277
Albania	39,254	36,588	ASIA (Jordan)	168,357	208,930
Cyprus	7,186	5,728			
Turkey	16,158	14,957	Grain		
BARENTS SEA (USSR)	148,480	1,203	TOTAL	5,698,436	7,832,054
AFRICA	129,393	148,811	BALTIC	488,768	485,435
Gabon	129,393	148,811	Denmark	36,854	271,449
ASIA	304,404	19,979	Finland	5,731	42,468
Iran	18,216	7,934	Sweden	446,183	171,518
India	281,988	9,945	WESTERN EUROPE	5,676	1,153,359
Philippines	—	2,100	Belgium	—	23,988
Japan	4,500	—	France	—	500,278
SOUTH AMERICA	1,738,594	1,928,546	Netherlands	—	29,161
Brazil	1,598,648	1,837,439	FRG	5,676	33,770
Venezuela	139,946	90,907	Great Britain	—	566,161
NORTH AMERICA	30,644	—	NORTH AMERICA	3,498,347	5,441,434
Canada	14,900	—	Canada	1,153,906	1,653,141
United States	15,744	—	United States	2,344,441	3,808,293
CENTRAL AMERICA (Cuba)	10,000	9,812	ASIA (India)	401,822	183,445
AUSTRALIA	—	25,812	AUSTRALIA	13,766	—
Fertiliser raw materials and fertilisers			AFRICA (Senegal)	2,584	18,302
TOTAL	3,398,444	3,271,300	SOUTH AMERICA	1,287,473	431,857
BALTIC	11,216	1,381	Argentina	904,099	157,157
Finland	2,858	—	Brazil	383,374	274,700
Sweden	8,358	1,381	MEDITERRANEAN SEA	—	118,022
WESTERN EUROPE	62,706	9,800	Turkey	—	192,824
Belgium	53,159	9,800	Greece	—	15,198
Spain	5,400	—	Liquid fuels		
Netherlands	4,147	—	TOTAL	2,946,465	3,804,843
			WESTERN EUROPE	—	160,499
			Netherlands	—	160,499

[Table continued on following page]

[Table 3 continued]

Commodity and country	1977	1978	Commodity and country	1977	1978
BLACK SEA	293,098	307,036	Citrus fruit		
Romania	49,465	—	TOTAL	123,418	142,096
USSR	243,633	307,036	WESTERN EUROPE	11,443	7,239
MEDITERRANEAN SEA			Spain	3,790	7,239
(Algeria)	71,543	—	Western European ports	7,653	—
ASIA	2,581,824	3,337,310	MEDITERRANEAN SEA	52,183	43,266
Saudi Arabia	2,175,724	—	Algeria	8,768	7,034
Iran	406,100	401,597	Cyprus	5,631	4,842
Iraq	—	1,273,608	Egypt	5,505	—
Kuwait	—	387,996	Morocco	15,182	20,048
Persian Gulf	—	1,018,843	Turkey	15,097	8,776
United Arab Emirates	—	255,266	Other countries	—	2,566
Boiled goods			NORTH AMERICA		
TOTAL	534,872	361,688	(United States)	21,794	28,826
BALTIC	28,701	20,890	SOUTH AMERICA	37,998	54,053
Denmark	21,431	18,037	Argentina	3,789	6,381
Finland	—	173	Colombia	31,278	27,650
Sweden	7,270	2,680	Uruguay	2,933	6,865
WESTERN EUROPE	437,167	264,530	Ecuador	—	13,157
Belgium	144,103	101,826	CENTRAL AMERICA (Cuba)	—	5,515
France	17,642	6,676	ASIA (Jordan)	—	3,197
Spain	55,541	28,591	Sugar		
Netherlands	56,627	31,802	Cuba	20,214	56,396
FRC	94,690	75,372	Cotton		
Great Britain	65,514	19,262	TOTAL	16,761	31,738
Iceland	—	1,001	MEDITERRANEAN SEA	9,781	13,654
Western European ports	3,050	—	Egypt	7,885	6,774
MEDITERRANEAN SEA			Greece	1,892	—
(Italy)	16,325	26,267	Turkey	—	6,880
ASIA (Japan)	51,727	30,986	AFRICA	1,812	3,911
NORTH AMERICA	283	19,015	Kenya	53	—
Canada	1	19,000	Sudan	3,759	3,911
United States	282	15	ASIA (Pakistan)	—	407
AUSTRALIA	469	—	BLACK SEA (USSR)	—	2,557
Timber			NORTH AMERICA		
TOTAL	34,150	76,699	(United States)	1,928	11,138
BALTIC (Denmark)	2,028	2,198	SOUTH AMERICA	1,240	71
WESTERN EUROPE	73	—	Colombia	1,240	—
Norway	58	—	Peru	—	71
Portugal	15	—	Cellulose		
AFRICA	32,049	25,665	TOTAL	157,083	151,911
Ghana	369	—	BALTIC	121,005	127,688
Cabon	2,549	—	Finland	20,313	10,924
Cameroon	4,767	2,994	Sweden	29,486	62,675
Congo	6,188	4,315	USSR	17,206	54,068
Ivory Coast	18,176	18,356			
BAKHTS SEA (USSR)	—	48,836			

[Table 3 continued on following page]

[Table 5 continued]

Commodity and country	1977	1978
WESTERN EUROPE	22,545	22,161
Belgium	5,231	—
Netherlands	2,889	—
Norway	14,425	20,552
FRG	—	1,609
NORTH AMERICA	—	2,061
Canada	—	2,061
ASIA (Japan)	—	1

10790

CSO: 2600

POLAND

BRIEFS

NORTH PORT OIL TERMINAL--As part of the continuing development of port handling potential, construction has begun at the Gdansk North Port on an oil transshipment terminal with an annual handling capacity of 5 million tons. [Excerpt] [Warsaw SLOWO Powszechnie in Polish 15 Aug 79 pp 1, 2]

CSO: 2600

PRIVATE SLOVENIAN BUILDERS CRITICIZED FOR LABOR VIOLATIONS

Belgrade KOMUNIST in Serbo-Croatian 10 Aug 79 p 1

[Excerpt] There is an increasing amount of information about how private employers, in carrying out cooperative work with [socialized] construction enterprises in Slovenia, exploit workers, thus violating legal regulations.

Employers find workers at a railroad station and conclude with them the traditional hired-labor contract. They employ them for a period of time which they alone specify. The work day is much longer than 8 hours. A physician's examination, labor safety and similar conditions are not provided. Because of incomplete professional permits which most often contain only the name and village of the employer, it is very difficult to establish all that lies behind these permits. During a hearing in the Maribor Secretariat of Internal Affairs it was shown that a private employer even possessed four permits and had employed on each one the largest possible number of workers.

There are few work organizations which require that private employers working in a cooperative relation with them submit proof of the fact that their workers are acquainted with the regulations on labor protection. Even those who do this are satisfied with simply the [private] craftsman's [verbal] statement. As a rule, one does not hear much about accidents on the job because the injured person "has left" home and cannot be found. Other workers mainly say that such persons have been "paid off" and dismissed. No private employer has yet reported an accident on the job to inspection organs. Such reports are most often submitted by the police or even an organization of associated labor.

Despite facts and occurrences which are cause for concern, work inspectors under present standards do not have the legal basis to take measures regarding contracts on performing cooperative work in open areas, especially on construction sites, where independent craftsmen and their workers work for organizations of associated labor.

Thus, changes and additions to the Law on Labor Protection are needed which would increase sanctions and, at the same time, make possible the introduction of more order in this field, even though present regulations, if they are respected, certainly do not permit such behavior [as described above].

CSO: 2800

BRIEFS

HOUSING CONSTRUCTION LAG—Stagnation, or rather, decline, in housing construction in the socialized sector is continuing. In the first half of the year, according to initial data, 16,365 apartments were completed which is 95 fewer apartments than in the same 1978 period. Last year, we recall, only 48,700 apartments were completed, the lowest number in this medium-term plan. The number of finished apartments increased in this half-year period in Montenegro by 34 percent, in Serbia proper by 18 percent, in Vojvodina by 11 percent, and in Bosnia-Herzegovina by 8 percent. They declined in Macedonia by 1 percent, in Slovenia by 8 percent, in Kosovo by 12 percent, and in Croatia by 23 percent compared to the same 1978 period. [Excerpt] [Belgrade PRIVREDNI PREGLED in Serbo-Croatian 10 Aug 79 p 1]

COAL PRODUCTION—Although a quite high production increase of 8.3 percent over last year is being achieved, coal mines are expected to produce less than planned this year. In the first 7 months of this year 24 million tons were produced. A high production rate will be maintained to the end of the year, it is expected, but nevertheless only 42 to 43 million tons will be produced instead of the 47 million tons planned. The General Association of Coal Mines of Yugoslavia says that production could increase to 44 million tons but only if some facilities which are behind schedule now are put into operation. One can expect supply difficulties this year, because neither coal consumers nor the coal trade is fully aware of the seriousness of the situation and persistently ask for brown coal which is in short supply, and they avoid in every way the purchase of lignite because of its lower quality. It has not been possible to produce more than 5.5 million tons of brown coal in these first 7 months. [Excerpt] [Belgrade PRIVREDNI PREGLED in Serbo-Croatian 14 Aug 79 p 3]

COAL NEEDS, PROBLEMS—Of the approximately 44 million tons of coal planned for production this year (1.8 million tons more than in 1978), about 30 million tons will be lignite from surface mines and with low caloric value. Increased pressure from consumers will bring about the [thus far] unrealized import of 125,000 tons of hard and brown coal briquettes from the GDR which is expected to meet the needs of households in Slovenia, Slavonia, and Vojvodina. Coal production cannot be increased without new investments and

more time (3 to 4 years is needed to activate pit mines, while needed investments range between 1,300 and 1,800 dinars per ton of coal). A proposal has been prepared to provide a 100-dinar-per-ton incentive to pit mines, but these are long-term solutions; that which is more immediate and most probable is to increase the price of coal also in Serbia. It has been suggested, namely, that coal be exempted from the price freeze considering that coal mines in Serbia are in a most difficult situation. Following the 20-percent price increase on 3 August in Bosnia-Herzegovina, the same increase was obtained in Slovenia. Slovenian coal was already one-half times more expensive than in the other republics, but miners wages were also 15,000 to 20,000 dinars, so there have been no problems in providing manpower for mines. [Excerpt] [Belgrade BORBA in Serbo-Croatian 14 Aug 79 p 4]

WATER SHORTAGE IN KOSOVO--An unprecedented drought prevails in the Pastrik area on the Yugoslav-Albanian border. Wells have dried up and there is a shortage of drinking water in 14 villages. Tanks of water from Prizren supply only three villages twice daily. Inhabitants from the remaining villages travel more than 10 kilometers to obtain water from the Beli Drim River. [Excerpt] [Belgrade BORBA in Serbo-Croatian 15 Aug 79 p 14] The drought which has continued since mid-May has endangered the water supply line for the population in the Kosovoska Kamenica industrial area. Three old wells have almost dried up, while two which have been recently built cannot meet all the needs. [Excerpt] [Belgrade BORBA in Serbo-Croatian 14 Aug 79 p 7]

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